PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

June 11, 2003

Agenda ID# 2366
Alternate to Agenda ID#1866
Ratesetting

TO: PARTIES OF RECORD IN RULEMAKING 01-09-001 and I. 01-09-002

Enclosed is Alternate Decision of Commissioners Kennedy and Peevey to the Draft Decision of Administrative Law Judge (ALJ) Thomas previously mailed to you.

When the Commission acts on this agenda item, it may adopt all or part of it as written, amend or modify it, or set aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the alternate draft decision as provided in Article 19 of the Commission's "Rules of Practice and Procedure." These rules are accessible on the Commission's website at http://www.cpuc.ca.gov.

This alternate draft decision of Commissioners Kennedy and Peevey was mailed to the parties on June 11, 2003, in accordance with Pub. Util. Code § 311(e) and the Commission's Rules of Practice and Procedure. Comments are due on July 2, 2003, and reply comments are due on July 7, 2003. Finally, comments and reply comments with a certificate of service shall be filed with the Commission's Docket Office and copies shall be served on all parties on the same day of filing. Commenters should serve the Commissioners, the ALJ, tjs@cpuc.ca.gov and nil@cpuc.ca.gov via e-mail on the same day of the filing.

/s/ ANGELA K. MINKIN_
Angela K. Minkin, Chief
Administrative Law Judge

ANG:bb1

Enclosure

Decision **ALTERNATE PROPOSED DECISION OF COMMISSIONERS KENNEDY AND PEEVEY**
(Mailed 6/11/03)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Commission's Own Motion to Assess and Revise the New Regulatory Framework for Pacific Bell and Verizon California Incorporated.	Rulemaking 01-09-001 (Filed September 6, 2001)
Order Instituting Investigation on the Commission's Own Motion to Assess and Revise the New Regulatory Framework for Pacific Bell and Verizon California Incorporated	Investigation 01-09-002 (Filed September 6, 2001)

(See Appendix A For List of Appearances)

INTERIM OPINION REGARDING PHASE 2B ISSUES SERVICE QUALITY OF PACIFIC BELL AND VERIZON CALIFORNIA, INC.

Table of Contents

Title **Page**

I. Summary 2
A. Introduction: Major Finding and Scope of Study 2
B. Verizon Offers Exceptional Service Quality 3
C. Pacific: Good Service Quality with Some Weaknesses 3
D. Service Quality Has Improved Under NRF 4
E. Other Information Consistent with Quantifiable Data 6
F. Areas for Improvement 6
II. Scope of This Phase and Methodology 7
III. California Measures of Service Quality and Standards 12
A. GO 133-B Measures, Standards, and Caveats 12
1. Definition of "Primary Line" is Unclear 14
2. Automated Response Units (ARU) 14
3. Busy or Abandoned Calls Not Counted Under GO 133-B 16
4. Commission Recognizes Need to Revise GO 133-B 16
B. Performance of Pacific and Verizon Against GO 133-B Measures 17
1. Held Primary Service Orders 17
a) Position of the Parties 17
b) Discussion: Measurement Problems, but Pacific and Verizon Exhibit Show Improvements 20
2. Installation-Line Energizing Commitments 23
a) Position of the Parties 23
b) Discussion: Pacific and Verizon Meet GO 133-B Standard for Honoring Installation Commitments 24
3. Customer Trouble Reports 26
a) Position of the Parties 26
b) Discussion: Pacific and Verizon Met GO 133-B Standard for Incidence of Trouble Reports 27
4. Toll Operator Answering Time 28
a) Position of the Parties 28
b) Discussion: Pacific and Verizon Met GO 133-B Standard for Operation Assistance Answer Time 30
5. Directory Assistance Operator Answering Time 31
a) Position of the Parties 31
b) Discussion: Pacific and Verizon Met GO 133-B Standards for Directory Assistance Answer Time 32
6. Trouble Service Answering Time 33
a) Position of the Parties 33

b) Discussion: Pacific Has Met GO 133-B Standard for TRSAT Since 1999; Verizon Since 1996 34
7. Business Office Answering Time (BOAT) 36
a) Position of the Parties 36
b) Discussion: Pacific Has Met BOAT Standard Since 1997; Verizon Since 1998…. 38
C. Summary of Empirical Assessment of Pacific's and Verizon's Performance on GO 133-B Measures…. 42
IV. Federal Measures of Service Quality – ARMIS and MCOT Data 43
A. ARMIS Measures 43
B. Accuracy of Data 44
1. General Issues with Pacific's Data 44
2. Pacific's Data Concerning Installation Orders Require Clarification 46
3. Allegation that Pacific's Reports Contain Erroneous Duplicate Records Has No Factual Basis. 47
4. Allegation that Pacific's Reports Contain Erroneous "Anomalous Records" Has No Factual Basis 48
5. Verizon's Data Are Accurate 49
C. Summary Table of ARMIS 43-05 Measures 50
1. The Number of Initial Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 57
2. The Number of Repeat Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 60
3. The Number of Initial Out-of-Service Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 63
4. The Number of Repeat Out-of-Service Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 66
5. The Number of Subsequent Initial Trouble Reports and Subsequent Repeat Trouble Reports: Insufficient Observations 68
6. The Number of Initial All Other Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 69
7. The Number of Repeat All Other Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good 71
8. Initial out of service repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good 74
9. Repeat out-of-service repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good 78
10. Initial all other repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good 80
11. Repeat all other repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good 83
12. Average Installation Interval: Pacific Average; Verizon Inconclusive 86
13. Switch Downtime: Pacific Good; Verizon Average 90

14. Switches Down per Switch 91
15. Number of Switch "Occurrences" 92
16. Installation Commitments Met: Pacific Average for Residential, Good for Business; Verizon Average 93
D. Summary of Empirical Assessment of Pacific's and Verizon's Performance on ARMIS 43-05 Measures 96
E. MCOT Data…. 98
1. MCOT Data – Pacific Shows No Service Diminishment Following Amertech Merger…….. 99
2. MCOT Data – Verizon California (GTE) Shows No Diminishment of Service Quality Following Merger 102
V. Survey Data and Customer Satisfaction 106
A. Customer Satisfaction and Service Quality Surveys – Pacific 106
1. ORA Survey 106
2. Pacific's Surveys 111
a) J.D. Power Survey – Pacific 111
b) IDC Survey – Pacific 112
c) Other Customer Surveys – Pacific 113
B. Customer Satisfaction and Service Quality Surveys – Verizon 122
1. ORA Survey 122
2. Verizon's Surveys 122
VI. Other Direct Measures of Service Quality 123
A. Informal Complaints: Pacific Low Incidence 124
B. Informal Complaints: Verizon Very Low Incidence 129
C. Formal Complaints – Pacific 133
D. Formal Complaints – Verizon 138
VII. Other Issues In This Proceeding 139
A. Allegation by TURN that Pacific Inappropriately Aggregated Data Lacks Merit 139
B. Technological Change and Affects on Pacific's Service Quality – None Documented 140
C. Growth – Pacific 143
D. Staffing – Pacific 143
E. Weather – Pacific 145
F. Marketing – Pacific 148
G. Still Other Issues – Pacific 148
H. Movement of Functions to Unregulated Affiliates – Verizon 149
I. Service Performance Guarantee - Verizon 151
J. Technological Change – Verizon 152
K. Growth – Verizon 152
L. Staffing – Verizon 152
M. Weather – Verizon 153
N. Marketing – Verizon 153
O. Mergers and Structural Changes – Verizon 154
VIII. NRF Incentives, Service Quality, and Competition 154
A. NRF Incentives and Service Quality, Positions of Parties 154

B. Discussion: Incentives to Improve Service Quality Under NRF are Similar or Better than those Under Cost-of Service Regulation 157
C. Effect of Competition on Service Quality – Positions of Parties 160
D. Competition and Service Quality - Discussion 161
IX. Comments on Proposed Decision 163
X. Assignment of Proceeding 163
Findings of Fact 163
Conclusions of Law 202
ORDER 205

I. Summary

A. Introduction: Major Finding and Scope of Study

This proceeding has conducted a comprehensive investigation into the quality of telecommunications service offered to Californians by Verizon and Pacific under the New Regulatory Framework (NRF) mode of incentive regulation. We found that Verizon offers exceptional service quality, that Pacific offers generally good service with several areas of weakness, and that service quality has improved in certain areas and remained stable in others under NRF.

This investigation assessed the performance of Verizon and Pacific in meeting the six California-adopted performance standards contained in General Order (GO) 133-B. In addition, we used standard statistical methods to analyze the trends in service quality for Verizon and Pacific under NRF regulation. The investigation also examines Federal service quality data. Since there are no standards adopted by the Federal Communications Commission (FCC) for these service quality measures, we compare the performance of each company against reference group of the ten largest national utilities (excluding Pacific but including Verizon-California). As with the California data, we also use statistical methods to determine the trends in service quality over the NRF period. In addition, the investigation reviewed survey data, regulatory proceedings, and informal complaint data to supplement the picture developed through our data analysis.

B. Verizon Offers Exceptional Service Quality

The investigation found that Verizon offers exceptional service quality. On the GO 133-B service quality measures, Verizon complied with four of the six service quality standards adopted by this Commission for all years covered in our study.[1] On the remaining two measures, Verizon complies with the standard for most years. It has complies with all six GO 133-B standards since 1998. In addition, when evaluated on the Federal Communications Commission's (FCC) Automated Reporting Management Information System (ARMIS) service quality measures, we find that Verizon exceeds the performance of a reference group on eight measures for both residential and business lines, and on two measures for residential lines only. Verizon has statistically indistinguishable performance on three measures for both residential and business lines and on two measures for business lines, only. Verizon does not fail to meet the performance of the reference group on any measure. Thus, on all significant Federal measures of service quality, Verizon meets or exceeds the performance of the reference group of large utilities.

C. Pacific: Good Service Quality with Some Weaknesses

For Pacific, we find a general picture of good service quality with a few areas of weak service. On the GO 133-B service quality measures, Pacific complied with four of the six service quality standards adopted by this

[1] We examine the years 1993 through 2001 for all GO 133-B measures. Where data exists, we examine 1990-2001

Commission for all years covered in our study.[2] For the remaining two measures, Pacific complies with one standard for most of the years and shows improvement in recent years for the sixth measure. Pacific has complied with all six standards since 1999. In addition, when evaluated on the FCC's ARMIS service quality measures, we find that Pacific exceeds the performance of a reference group on seven measures for both residential and business lines, and on one measure for business lines only. Pacific has statistically indistinguishable performance on one measure for both residential and business lines, and on three measures for business lines only. Pacific fails to meet the performance of the reference group on four measures for residential lines.

As these data suggest, Pacific has several areas of service weakness. Compared to the national reference group, Pacific has far fewer incidences of service trouble or outages, but once this occurs, Pacific's is slower to resolve the trouble. Pacific is also slow to answer customer billing queries, a service quality indicator not systematically measured and for which there is now current standard.

D. Service Quality Has Improved Under NRF

As noted above, both our utilities have performed well in meeting California-adopted service standards and have generally met or exceeded the performance of a reference group of large utilities. In addition to measuring the level of service for each company, we statistically examined how service changed during the years covered by NRF regulation. In particular, we sought to

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[2] We examine the years 1993 through 2001 for all GO 133-B measures. Where data exists, we examine 1990-2001

determine whether NRF regulation was correlated with declines in service quality.

Concerning the effect of NRF regulation on service quality, we find that in general, service has improved during the NRF years. To reach this conclusion, we reviewed 7 GO 133-B measures and 16 ARMIS measures in this study to determine whether they showed a statistically significant increase or decline in service quality. Twelve of the ARMIS measures were examined separately for residential and business lines. This yields a total of 35 variables that we examined to determine if there were statistically significant trends in service quality over the NRF years.

Of the 35 variables for service quality reviewed in this study, Pacific showed statistically significant improvement on 8 of these variables during the NRF period; it showed no statistically significant change on 23 of them; it showed statistically significant declines only on 3 of the measures; and on one measure we could not make a finding. Thus, for Pacific, more variables show improvement than show decline during the NRF period, while most show no significant change.

Verizon showed statistically significant improvement on 12 of these measures during the NRF period; it showed no statistically significant change on 19 of them, and it showed statistically significant declines only on 4 of the measures. Once again, in despite meeting or exceeding the Federal reference group on all measures and meeting the GO 133-B standards since 1998, more variables showed improvement than showed decline.

Moreover, our examination of specific measures showed that sometimes one company showed a pattern of improvement, while the other company showed a pattern of decline.

Moreover, we find that under NRF, economic incentives concerning service quality are little different than those in place under cost-of-service regulation. In addition, NRF regulation, in combination with advances in the availability of data and statistical software, has led to more systematic investigations of service quality by this Commission and the FCC.

These outcomes – overall high service quality, more improvements than declines in service quality, and disparate patterns of performance across companies – are not possible to reconcile with the proposition that NRF caused a systematic decline in service. Indeed, they demonstrate the opposite: under NRF, service quality was good and improving.

E. Other Information Consistent with Quantifiable Data

As part of our investigation, we also reviewed survey data, informal complaint data, and formal Commission investigations of Pacific and Verizon. This information, which is more difficult to interpret quantitatively, presents a qualitative picture that supplements our statistical assessment. Customers are generally pleased with service quality, and the Commission has aggressively pursued lapses in service quality or marketing standards.

F. Areas for Improvement

As with any investigation, we find areas for improvement. In particular, we have identified areas of service where utilities can and should improve both their performance and their measurements of performance. In addition, we have identified several areas where regulation requires clarification and better measures of service quality. We note that Rulemaking (R.) 02-12-004 was opened to adopt revisions in GO 133-B and that is the appropriate forum for modifying these standards. Nevertheless, we are confident that the findings of our current investigation show where variables need clarification, where measurement is

lacking, where standards may be necessary, and where no change is warranted. These findings should proved helpful to R.02-12-004.

II. Scope of This Phase and Methodology

The Order Instituting Rulemaking (OIR) for this proceeding calls for us to examine the service quality results for Pacific and Verizon in Phase 2B, and consider regulatory changes – including alteration of the NRF framework to account for any problems we find – in Phase 3[3]:

> In Phase 2 of this proceeding, the Commission will assess how service quality has fared under NRF. This assessment will focus on the quality of service provided to end users by Pacific and Verizon. Issues that are beyond the scope of this proceeding include the following: (1) the quality of service provided by Pacific and Verizon to other carriers; (2) requests for relief that are better addressed in complaint proceedings or enforcement OIIs; and (3) issues regarding universal service.
>
> . . .
>
> In Phase 3, the Commission will consider whether and how NRF should be revised to achieve the Commission's goal of high-quality service. Parties will have an opportunity in Phase 3 to recommend specific revisions to NRF that should be considered by the Commission in light of the record developed in Phase 2 regarding how service quality has fared under NRF. There will not be an opportunity in Phase 3 to litigate issues of fact

[3] In a September 2002 ruling, the Assigned Commissioner divided this proceeding into two sub-phases. *Assigned Commissioner's Ruling Revising the Schedule and Clarifying the Scope of Phase 3*, dated Sept. 23, 2002. Phase 3B will deal with any changes to NRF necessitated by the service quality findings we make here. Parties should interpret any reference to Phase 3 or 3B in this decision to include any new phase the Commission designates for consideration of remedies for the service quality results we find here.

> regarding service quality. All litigation of factual issues pertaining to service quality must occur in Phase 2.[4]
>
> . . .
>
> Parties may also offer recommendations in Phase 3 regarding how NRF should be revised to promote the availability of high quality services, such as a system of financial carrots and sticks tied to measurements of service quality.

Therefore, in this decision, we make factual findings regarding the service quality performance of Pacific and Verizon over the NRF period (January 1, 1990 to the present), but do not propose regulatory changes at this juncture. Because the NRF period is lengthy, we do not simply focus here on the carriers' most recent performance. Rather, we examine their performance over the entire NRF period, and where we find evidence of problems with the service quality of either company at any time during that period, we identify the problem. In some cases, the most recent data may indicate that quality is improving, and if that is the case we point it out. By the same token, if the positive trend is of short duration, and past problems endured over a significant period of time, we point this out as well. We make every effort to distinguish statistically significant trends from changes in performance that are artifacts of the graphical scales used to illustrate our data or changes that are best understood as random variation.

Concerning the task of assessing the service quality of Pacific and Verizon, as well as the effects of NRF, we face some methodological obstacles. First, we

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[4] Rulemaking (R.) 01-09-001, 2001 Cal. PUC LEXIS 842, Appendix A.

have little service quality data from the period preceding the adoption of NRF. Thus, it is not possible to compare the quality under NRF with the service quality preceding the adoption of NRF. Second, we find that the data included in service quality measures changed over time, sometimes because of a change in corporate organization, sometimes because of a change in technology, and sometimes because of a change in the mixture of services sold. Thus, even when a service measure remained stable over time, the activities measured may have changed dramatically. Third, different companies have interpreted a measure differently. Thus, it is difficult to compare the performance of one company with another. Fourth, during the period under study, virtually every regulatory jurisdiction adopted some version of price cap regulation. Moreover, the data introduced into this proceeding concerning a reference group of firms did not distinguish which companies were under price cap regulation and which were under rate of return regulation. Thus, it is not possible to compare the service quality of companies under price cap regulation with the service quality of those under rate of return regulation.

To answer our questions concerning the level of service quality and the effect of the change to price cap regulation, our investigation uses a variety of different measures and methods for assessing service quality. Each methodology has both advantages and disadvantages. Moreover, no single methodology provides a definitive answer.

In order to assess the service quality of Pacific and Verizon, we examine the direct measures of the provision of certain services. In particular, our GO 133-B defines specific measures associated with the quality of telecommunications services and sets standards for all but one. For Pacific and Verizon, we compare their performance against each standard and determine

whether there are statistically significant trends in service quality over the measurement period. Similarly, using FCC's ARMIS measures, we compare the performance of Pacific and Verizon against a reference set of utilities and against each other. In addition, we also assess the performance of Pacific and Verizon on Merger Compliance Oversight Team (MCOT) measures, also adopted by the FCC. Although we will discuss the strengths and weaknesses of each of these measures in the discussion sections below, it is important to remember that these are measures of utility performance, not measures of overall "service quality." Moreover, and most importantly, we do not know to what extent consumers view these attributes as constitutive of service quality. Indeed, it is highly likely that consumers will view "missed appointments" by the telephone company as more serious flaw in service quality than waiting on the phone for a customer service employee to answer.

To address the larger issue of how customers view the quality of service offered by Pacific and Verizon, we rely on survey data that directly ask customers their view of service quality. The record in this proceeding includes several surveys of customer satisfaction with each utility. In particular, the record includes a survey conducted by ORA addressing the quality of service for both Pacific and Verizon.

Pacific has presented the results of a survey it conducts as part of its ARMIS filings made to the FCC, known as ARMIS 43-06 and as part of the monitoring reports it files with this Commission (PA 02-04). In addition, Pacific presented the results of two surveys conducted by external firms, one by IDC and the other by JD Power.

Verizon also presents its ARMIS 43-06 survey. In addition, Verizon notes that it surveys its California customers by conducting over 1,000 interviews per

month covering Directory Assistance, Consumer and Business Provisioning (which covers installation of new service), Consumer and Business Repair (which covers diagnosis, repair, and restoration of existing service), and Consumer and Business Request and Inquiry (which covers requests and inquires directed to the Business Office regarding customer bills, products and services, prices, and company policies).[5]

In general, each survey has particular strengths and weaknesses. Moreover, since customers only infrequently interact with a telephone utility, general surveys can provide a measure of service quality that lags behind current conditions. Other surveys, which sample customers that have recently interacted with the utility, provide other measures of service quality. In our analysis below, we will assess the value of the evidence provided by each survey and use it to inform our overall assessment of service quality.

Finally, although the average experience that a customer has with a phone company offers an important factor in our assessment of service quality, we also are concerned with the quality of service provided to customers when things go wrong. To aid in our assessment, we also examine the data accumulated by the Commission's consumer service concerning complaints lodged by customers concerning the utility's service. In addition, we also examine the recent record of formal legal complaints adjudicated by the Commission for each utility during the period covered by NRF.

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[5] Verizon Opening/Service Quality at 51-52.

III. California Measures of Service Quality and Standards

A. GO 133-B Measures, Standards, and Caveats

The Commission adopted GO 133-B to establish uniform standards of service for all telephone utilities providing service in California. Pursuant to GO 133-B all telephone utilities are required to compile monthly data and submit quarterly reports on the following service quality measures[6]:

[6] One of the measures required by GO 133-B, dial service, was discontinued in 2000 and will not be addressed here. Similarly, we have no information on dial tone speed.

Table 1: GO 133-B Measures and Standards

Service Measure	Description	Standard
1. Held Primary Service Orders	Requests for primary telephone service delayed over 30 days due to lack of telephone utility plant	**No standard established**
2. Installation-Line Energizing Commitments	Requests for establishment or changes in non-key telephone individual and party-line service that normally involve plant activity	**95% commitments met**
3. Customer Trouble Reports	Initial reports from customers and users of telephone service relating to dissatisfaction with telephone company-provided equipment and/or service	**6 reports per 100 lines for units with 3,000 or more lines** **8 reports per 100 lines for units with 1,001-2,999 lines** **10 reports per 100 lines for units with 1,000 or fewer lines**
4. Toll Operator Answering Time (OA)	The percentage of toll and assistance calls answered within 10 seconds	**85%**
5.Directory Assistance Operator Answering Time (DA)	The percentage of directory assistance calls answered within 12 seconds	**85%**
6. Trouble Report Service Answering Time (TRSAT)	The percentage of trouble report calls answered within 20 seconds	**80%**
7. Business Office Answering Time (BOAT)	The percentage of business office calls answered within 20 seconds	**80%**

There have been many criticisms throughout this proceeding of ambiguities and omissions of GO 133-B pertaining to issues such as the definition of "primary line", use of automated response units, and the count of busy or abandoned calls. We describe and discuss the most significant.

1. Definition of "Primary Line" is Unclear

There is disagreement about what GO 133-B means when it requires carriers to report held "primary" service orders. ORA contended the term "primary" means, essentially, that Pacific and Verizon must report data about all basic exchange service lines to a household, regardless of the number of lines at issue. Pacific contended that "primary" refers only to the first line in the house, and not additional lines. Although we believe that ORA's arguments are most persuasive, we find ourselves left with the data in their current state. We note that we have opened a general rulemaking on service quality that will review our GO 133-B measures.[7] It is clear that this rulemaking will offer the best forum for resolving this issue.

2. Automated Response Units (ARU)

Another general criticism of the GO 133-B reporting is that GO 133-B fails to address the use of Automated Response Units (ARUs). Indeed, neither Pacific[8]

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7 R.02-12-004, filed Dec. 5, 2002, available at http://www.cpuc.ca.gov/published/final_decision/21982.htm (Service Quality OIR).

8 23 RT 2973:11-17 (Resnick for Pacific). In this decision, RT refers to the hearing transcripts. Thus, 23 RT 2973:11-17 refers to Volume 23 of the transcript, at page 2973, lines 11-17.

nor Verizon report or track[9] the time a customer spends navigating the companies' ARUs before reaching a live operator. This omission complicates interpreting the carriers' response times in their Business Office Answer Time (BOAT) reports and in connection with their reported Trouble Report Service Answer Time (TRSAT) reporting.

The time a customer spends in "voice mail jail," as some refer to it, may well be as long or longer than the time the customer spends talking to a live operator or service representative. Indeed, since our answer time standards under GO 133-B require "operators," "service attendants" and "business office representatives" to answer calls within mere seconds, it is probable that callers spend more time navigating voice mail menus than during their prescribed seconds-long wait for a company representative.

We find that the evidence in this proceeding substantiates this assumption, at least as to Pacific's residence customers. Pacific stated that the time its residence customers spend in its ARU system ranges from a low of 50 seconds to a high of 300 seconds – that is, from a range of almost 1 minute to 5 minutes.[10] After that, Pacific places customers in a waiting queue for another 35 seconds on average before reaching a live operator.[11]

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[9] 23 RT 2974:17-23 (Resnick for Pacific; not aware that Pacific can measure how long customers wait in the ARU queue).

[10] Exh. 2B:139 at 8 n.12 (Piiru Opening Testimony, citing Pacific response to TD data request 02-01-01-1-I (iii). Verizon responded in discovery that it does not track this information "on a regular basis." *Id.* at 7, n.11.

[11] *Id.* at 7 & n.12.

GO 133-B's failure to address the use of ARUs reflects changes in technology since the Commission adopted the standard, and this technology gap should be closed.[12] Thus, the use of ARUs will likely require a modification of GO 133-B, for without this measure we do not have an accurate picture of the service provided to customers.

3. Busy or Abandoned Calls Not Counted Under GO 133-B

GO 133-B does not track busy or abandoned calls. TURN argued that a large percentage of either could indicate poor customer service. While some FCC requirements cover these calls, they only do so as part of the time-limited merger monitoring reports we discuss later in this decision. Once again, GO 133-B's failure to require tracking busy and abandoned calls may cause us to miss an important element of customer dissatisfaction.

4. Commission Recognizes Need to Revise GO 133-B

We recently instituted a rulemaking to examine GO 133-B in its entirety as it applies to all carriers.[13] That rulemaking will consider what changes to existing GO 133-B measures and standards are appropriate. The Commission may use the record of this proceeding to assist it in making its decisions regarding how to revise GO 133-B. However, where it is clear that Pacific or Verizon are not properly interpreting the requirements of GO 133-B, this decision will identify such misinterpretations and order conforming changes.

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[12] Although Pacific asserts it has used ARUs since 1990, it provided no evidence that the Commission was aware of its practice or considered the use of ARUs at the time BOAT and TRSAT measures were adopted in 1992.

[13] R.02-12-004, filed Dec. 5, 2002, available at http://www.cpuc.ca.gov/published/final_decision/21982.htm (Service Quality OIR).

Based on the evidence in this proceeding, it is very clear that GO 133-B should be amended. Because a change to GO 133-B would affect other carriers besides Pacific and Verizon, this change would appropriately occur outside this proceeding, and is best addressed in our Service Quality OIR (R.02-12-004).

In addition, the evidence in this proceeding establishes that data collected under the Order are not always identical among carriers or from year to year for each service quality measure due to the composition of the data underlying the reported service quality results. We acknowledge the limitations of using such data. However, until uniform standards for data collection are established, we have to draw our conclusions based on the existing data.

B. Performance of Pacific and Verizon Against GO 133-B Measures

As noted above, the GO 133-B measures and standards are the principal service quality measures used by this Commission to promote the quality of landline telephone service in California. For this reason, we begin our assessment by examining the performance of Pacific and Verizon against our standards and over time.

1. Held Primary Service Orders

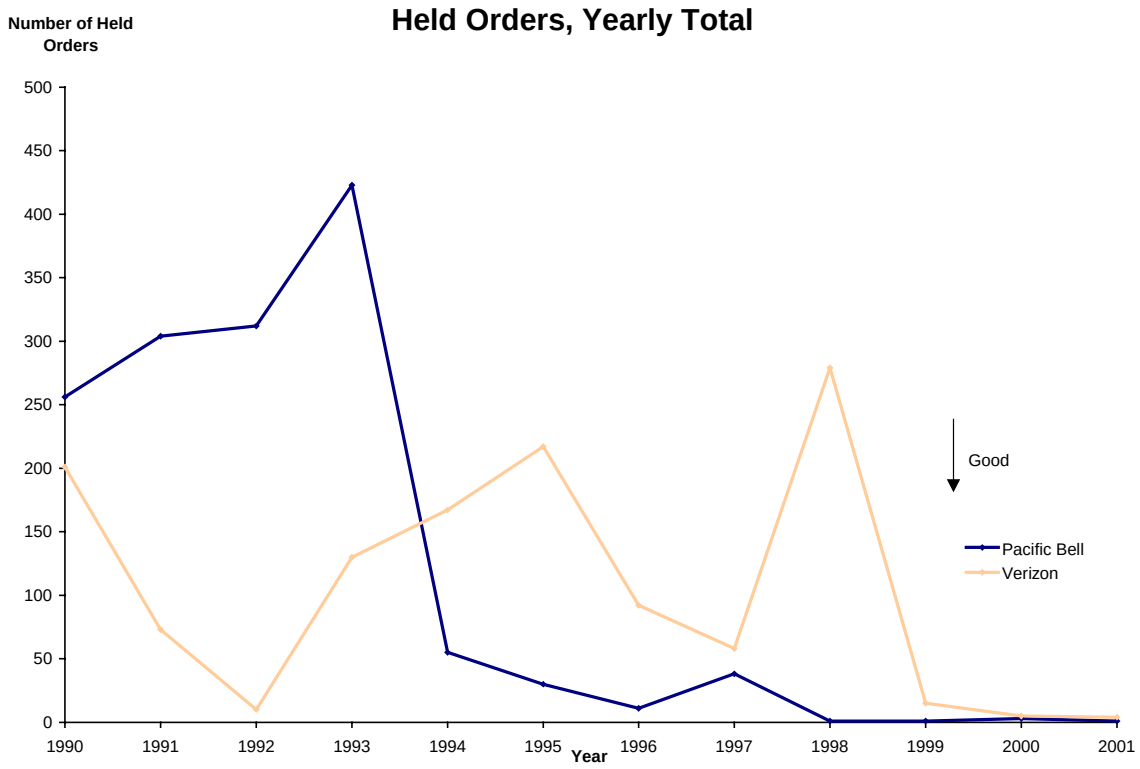
a) Position of the Parties

Pacific reported that its held primary service order count has significantly improved since early 1990s. Pacific's witness Dr. Hauser stated that Pacific had no held orders from January to March 2002 and just a single held order in 2001.[14]

[14] Exh. 2B:354 at 14:15-16 (Hauser Direct Testimony).

The chart below demonstrates Pacific's performance over the period 1990 through 2001.[15]

ORA challenged Pacific's held order data. GO 133-B defines a held order as "[r]equests for primary (main) telephone service delayed over 30 days for lack of utility plant." ORA and Pacific strongly disagree on the interpretation of the term "primary telephone service." ORA contends that "primary service" is a class of service that includes basic exchange service and that the sequence of lines to an address is not a factor in the definition of primary service.



[15] *Id.*, Attachment 10.

Pacific defines "primary service" as the first line into a home. ORA claims that Pacific is erroneously relying - out of context - on a definition contained in our rules for the California High Cost Fund-B (CHCF-B), which define a "primary line" in this manner: "Primary Line: For the purposes of the CHCF-B, 'primary line' is the first line to [a] household."[16] This difference in interpretation clearly affects Pacific's reporting of held orders. If, as ORA contends, Pacific is supposed to be counting all lines into the home as long as they deliver "basic exchange service," then its held order figures could be higher than Pacific reports.

Verizon, in contrast to Pacific, defines "primary line" as any basic service line into a house or business. Verizon reported that "the number of primary service orders exceeding 30 days has shown improvement, with annual totals in single digits for the years 2000 and 2001, with only 5 and 4 orders respectively exceeding the GO 133-B threshold. The annual average for the years 1993 through 1998 was 155 held orders."[17]

TURN "took no position on the content of the GO 133-B installation reporting of Pacific and Verizon."[18]

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[16] ORA Reply/Service Quality at 8, citing Pacific's Tariff, Schedule Cal. P.U.C. No. A2. Network and Exchange Services: A2. General Regulations 2.1.1 Rule No. 1 - DEFINITION OF TERMS.

[17] Exh. 2B:214 at 30:7-12 (Thoms Direct Testimony).

[18] TURN Opening/Service Quality at 16.

b) Discussion: Measurement Problems, but Pacific and Verizon Exhibit Show Improvements

We agree with Pacific that GO 133-B is ambiguous on the definition of "primary line." Although we prefer ORA's definition on a going forward basis, for this proceeding Pacific's interpretation is acceptable. We therefore do not take action against Pacific at this time. We further note, however, that our Service Quality OIR is taking a close look at GO 133-B and intends to consider this definitional issue in that forum.

The Commission has not set any standards for the held order count and the data reported by Pacific has shown an improving trend for this measure. However, the parties have expressed concerns regarding Pacific's data gathering methodology. GO 133-B requires that carriers report orders that are held – that is, remain pending – for more than 30 days beyond the commitment date ("held orders").[19] According to its testimony, Pacific counts such orders once a month. This creates a result that is inconsistent with GO 133-B's intent that any order older than 30 days be reported to the Commission.

When Pacific's witness Mr. Resnick explained Pacific's practice, it became clear that Pacific does not capture all relevant orders because it counts such orders only once a month. For example, under certain circumstances, Pacific's practice does not count an order that is 48 days overdue as a held order:

> Q. Resnick, let's say a customer ordered primary residential service and the commitment date is set for December 29th. We are going to do this as a hypothetical. Due to problems establishing facilities at the customer's residence the line is not

[19] GO 133-B, Section 3.1 – Held Primary Service Orders.

> installed until February 14th, resulting in a 48-day installation interval from the initial commitment date. Do you have those hypothetical facts in mind, sir?
>
> A. Yes.
>
> Q. In your opinion does this installation meet the GO 133(b) definition of a held order?
>
> A. No.
>
> Q. Why not, sir?
>
> A. . . . [T]he way we measure our GO 133 per the guidelines that are set forth by the Commission, we measure held orders that are held for facilities over 30 days on the 25th of the month. So in this case we would look at January 25th as reporting date for GO 133. We would look back on any orders that were held for more than 30 days past the commitment date. In this case it was not. And so then it would not qualify. The following month, the subsequent month, February 25th, we would look back and this order would have been completed, so therefore it would not count.[20]

This method of counting is inconsistent with the requirement of GO 133-B that "An order will count as held when service is not provided within 30 days after commitment date." (Section 3.1(a)). Pacific's method results in it not reporting some orders held up to two months, making its reported performance appear better than its actual performance.

Within 30 days of the effective date of this decision, Pacific shall file a compliance document in this docket indicating that it has conformed its practice

[20] 22 RT 2793:24-2794:22 (Resnick).

to the plain meaning of GO 133-B.[21] Pacific shall, at the very least, change its practice of counting held orders so that it counts such orders as often during the month as is necessary to ensure that all orders for which Pacific does not provide service within 30 days after the commitment date show up in Pacific's held order reporting. It is not acceptable for Pacific to continue its current method of making the count, as that practice causes Pacific to under-report its results.

Even though a limited definition of primary line and a faulty definition of held order contaminate an interpretation of this measure, statistical methods enable us to analyze the time trend in Pacific's reported measure. An examination of the chart shows a dramatic decline in held orders. A statistical examination of Pacific's performance over the period from 1990 to 2001 shows that Pacific's performance has improved substantially in its unique and strange measure of held orders.[22] However, we decline to make a finding in this area because of the substantial problems associated with Pacific's measure of primary lines and its erroneous measurement of held orders.

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[21] Parties who believe Pacific has violated GO 133-B may file a complaint based on such a claim and seek relief for any alleged violation.

[22] To determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For the held orders measure, the value of β is –34.51 with t-statistic –4.17, significant at 1% level (R-square: 0.64, no. of observations: 12). The negative value of β indicates that Pacific has improved its performance.

A visual review of the chart indicates that Verizon's performance has also improved. Verizon had 201 held orders in 1990. It dropped to 10 in 1992 and then peaked to 279 in 1998. In the last three years Verizon has improved its performance in this area. The considerable fluctuations in Verizon's performance, and Verizon's improving trend in the number of held orders over time is not statistically significant.[23]

2. Installation-Line Energizing Commitments

a) Position of the Parties

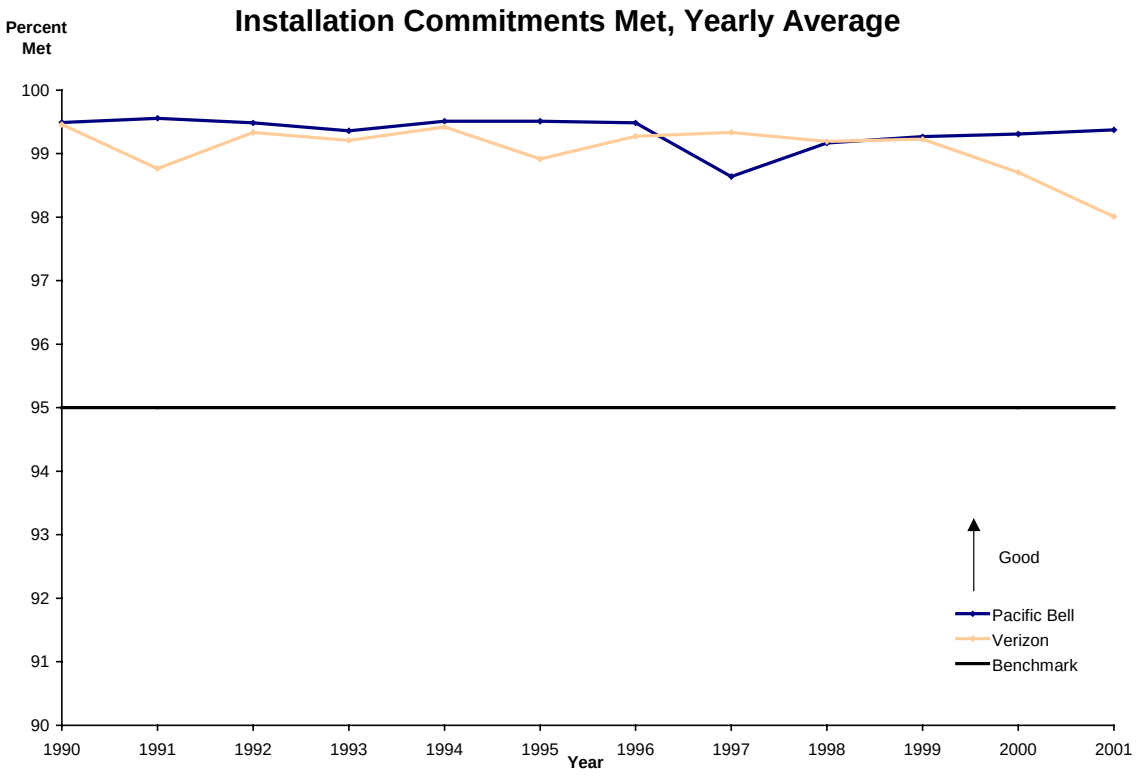
Pacific claimed it met and exceeded the GO 133-B installation-line energizing commitment standard for all of the NRF period.[24]

Verizon reported that it has "met a minimum of 98% of its basic installation order commitments over the past nine years, well above the GO 133-

[23] To determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For the held orders measure, the value of β is –8.57 with t-statistic –1.1. The negative value of β indicates that Verizon has improved its performance, but the t-statistic implies that this record of improvement is not statistically different than a record of noimprovement at either the 1% or 5% level (R-square: 0.11, no. of observations: 12).

[24] Pacific Opening/Service Quality at 11.

B standard."[25]The chart below shows Pacific's and Verizon's performance from 1990 to 2001.[26]



b) Discussion: Pacific and Verizon Meet GO 133-B Standard for Honoring Installation Commitments

Parties have not contested Pacific's performance in this area. The data and the graph above show that Pacific has consistently exceeded the benchmark of meeting 95% of all line-energizing service installation orders for the years 1990

[25] Exh. 2B:214 at 30:6-7 (Thoms Direct Testimony).

[26] Exh. 2B:354/Attachment 5 (Hauser Direct Testimony).

through 2001 (the solid line indicates the standard). Pacific's annual average has been over 99 percent for eleven years out of twelve. This leads us to conclude that Pacific has a record of compliance with this standard. In addition, we have not observed any significant change in the annual average of Pacific's installation commitments met.[27]

Turning now to Verizon, even though we observe a slight decline in Verizon's trend, it is not statistically significant.[28] Verizon has consistently exceeded the GO 133-B standard. Further, no party contested Verizon's performance measure. We conclude that Verizon's performance complies with this standard.

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[27] As is our practice, to determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of β is –0.03, which shows almost no change in the yearly average of installation commitments met over the period investigated. Moreover, the t-statistic –1.52 is not significant at 1% or 5% level (R-square: 0.19, no. of observations: 12). Thus, we find no statistically significant trend.

[28] As is our practice, to determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of coefficient β is –0.06. Moreover, the t-statistic –1.95 is not significant at 1% or 5% level (R-square: 0.27, no. of observations: 12). Thus, we find no statistically significant trend.

3. Customer Trouble Reports

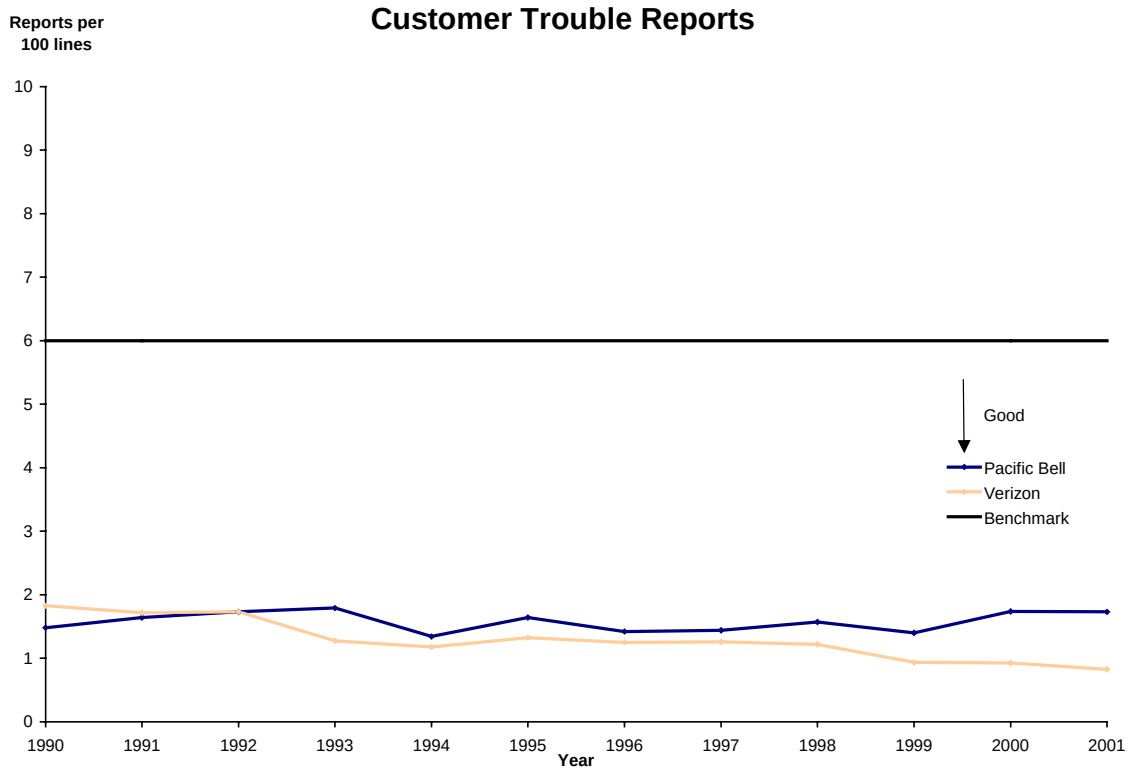
a) Position of the Parties

Pacific reported that customer trouble reports occurred about 1.0 to 1.8 times per 100 lines from 1990 to 2001.

Verizon reported that "[its] network trouble reports per 100 access lines have not exceeded the GO 133-B standards since at least 1986. In that year, the trouble report rate was 3.4 reports per 100 lines. The rate declined to 1.3 by 1993 and averaged approximately 1 report per 100 lines between 1996 and 2001."[29]The following chart shows the performance of Pacific and Verizon for the period from 1990 to 2001.[30]

[29] Exh. 2B:214 at 29: 23 and 30:1-3 (Thoms Direct Testimony).

[30] Exh. 2B:354/Attachment 11 (Hauser Direct Testimony).



b) Discussion: Pacific and Verizon Met GO 133-B Standard for Incidence of Trouble Reports

A visual inspection of the chart above indicates that Pacific and Verizon have consistently exceeded the benchmark of no more than 6 trouble reports per 100 lines (the solid line on our graph). The statistical analysis also indicates that there was no significant change in Pacific's performance over the period under consideration.[31] On the average, Verizon has slightly improved its performance over the years.[32]

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[31] To determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this

Footnote continued on next page

4. Toll Operator Answering Time

a) Position of the Parties

Pacific reported that the trend in operator assistance answer time, also known as toll operator answering time, has met and exceeded GO 133-B standards since the early 1990s.[33]

Verizon stated that "[its] responsiveness to customers calling for toll or directory assistance operators has consistently reflected a high level of service quality, as evidenced by the percentages of calls answered within the ten second and twelve second thresholds established by GO 133-B."[34]

No other party addressed this measure.

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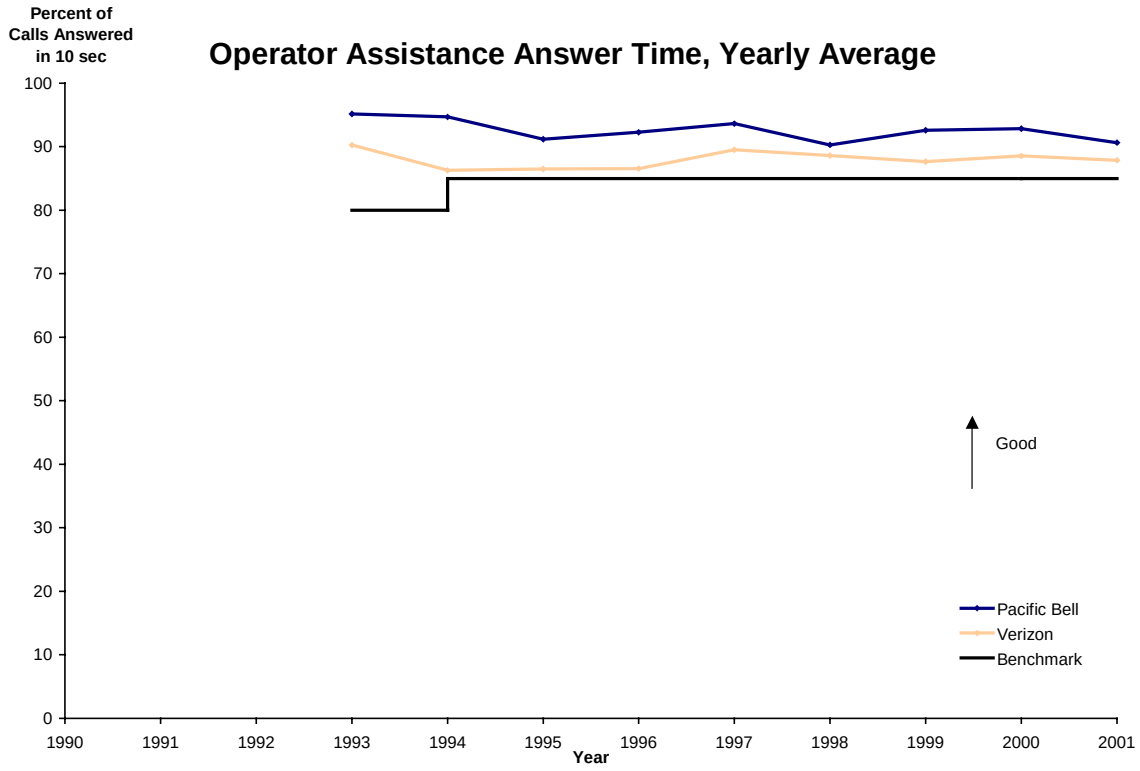
specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of β is approximately zero, which shows almost no change in customer trouble reports, yearly average, over the years studied. Moreover, the t-statistic is 0.06, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 12).

[32] To determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of β is –0.08, indicating a slight improvement over this time period. More importantly, the t-statistic is –7.64, significant at 1% level (R-square: 0.85, no. of observations: 12). Thus, there is only one chance in a 100 that Verizon's customer trouble reports did not decrease over time.

[33] Exh. 2B:354 at 17:20-21 (Hauser Direct Testimony).

[34] Exh: 2B:214 at 30:13-16 (Thoms Direct Testimony).

The following chart demonstrates Pacific's and Verizon's performance from 1993 to 2001.[35] The horizontal black line shows the benchmark standard, which rose from answering 80% of all calls within 10 seconds to 85%.



[35] Exh: 2B:354/Attachment 7 (Hauser Direct Testimony).

b) Discussion: Pacific and Verizon Met GO 133-B Standard for Operation Assistance Answer Time

A review of the graph above shows that Pacific has met and exceeded the benchmark of answering 85% of all operator assistance calls in 10 seconds over the period under consideration. A closer inspection of the graph shows that Pacific's performance peaked in 1993 and has not reached the same level since then. Nevertheless, statistical analysis finds no statistically significant time trend in operator assistance answer time.[36]

Verizon has also exceeded the benchmark since 1990. Its best performance was 90.25% in 1993. We do not observe any significant trend in Verizon's performance.[37]

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[36] As discussed in previous footnotes, we apply the standard statistical methodology: we derive the coefficients that estimate how Pacific's performance varies over time. In particular, we estimate a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year, and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this specification, the value of β is -0.38, which shows a modest decrease in the percentage of phone calls answered within 10 seconds. This trend, however, is not statistically significant – the t-statistic is –2.04 , not significant at 1% or 5% level (R-square: 0.37, no. of observations: 9).

[37] To determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this specification, the value of β is 0.03, which is very close to zero. Moreover, the t-statistic is 0.14, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 12). Thus, there is no statistically significant time trend.

5. Directory Assistance Operator Answering Time

a) Position of the Parties

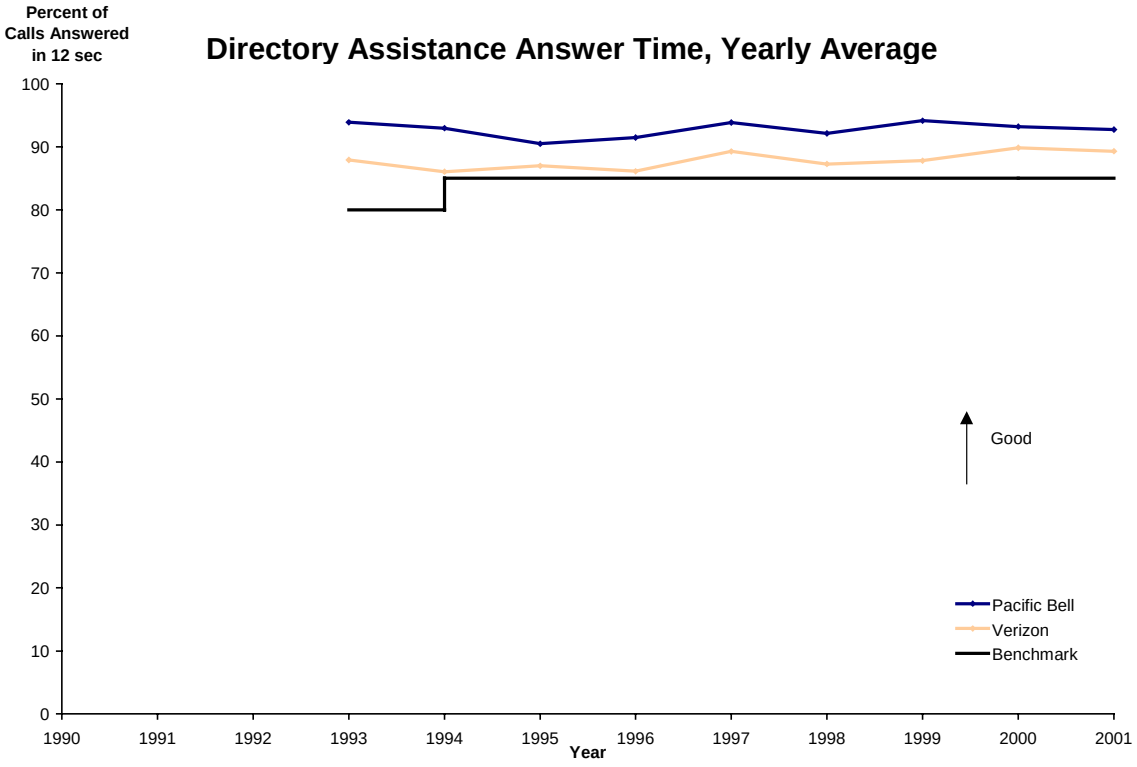
Pacific reported that the trend in directory assistance answering time has exceeded GO 133-B standard of answering 85% of all directory assistance calls within 12 seconds since the early 1990s.[38]

Verizon also reports a record of compliance with the standard.

The following chart demonstrates the performance of Pacific and Verizon.[39] Once again, the solid horizontal line represents the performance standard.

[38] Exh. 2B:354 at 17:20-21 (Hauser Direct Testimony).

[39] *Id.*, Attachment 8.



b) Discussion: Pacific and Verizon Met GO 133-B Standards for Directory Assistance Answer Time

As a review of the graph indicates, Pacific has consistently exceeded the benchmark from 1993 to 2001. The annual average of Pacific's performance has been over 90 percent for all years under consideration – an average of over 90 percent of directory assistance calls were answered within 12 seconds. We find no statistically significant upward or downward trend. [40]

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[40] Following the usual procedure, to determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the percentage of calls answered within 12 seconds in a given year and x is the year. With this specification,

Footnote continued on next page

We find that Verizon has also exceeded the benchmark, and we find no statistically significant upward or downward trend.[41]

6. Trouble Service Answering Time

a) Position of the Parties

Pacific reported that the percentage of trouble service calls answered on time – trouble report service answering time (TRSAT) – has shown steady improvement since 1996. Pacific has exceeded the standard – answering 80% of all calls within 20 seconds – every year starting in 1999.[42]

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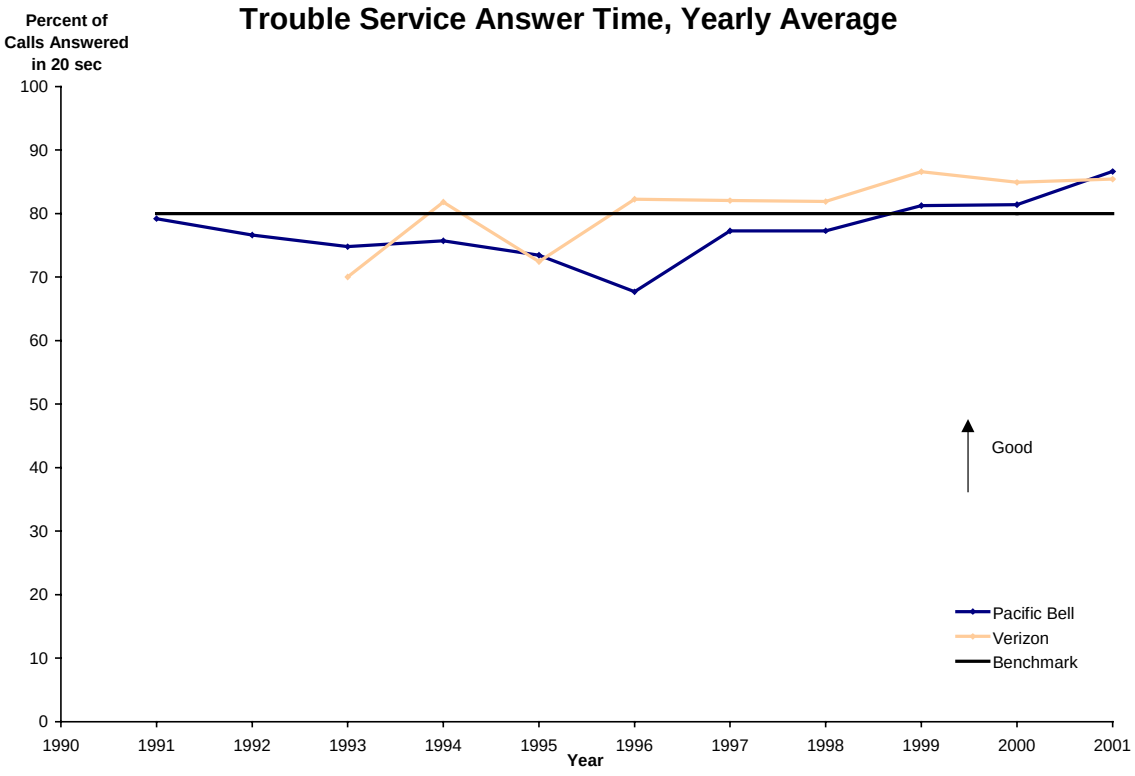
the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this specification, the value of β is 0.07, indicating little systematic change over the years studied. Moreover, the t-statistic is 0.41, not significant at 1% or 5% level (R-square: 0.02, no. of observations: 9). Thus, the trend is not significantly different from zero.

[41] Following the usual procedure, to determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the percentage of calls answered within 12 seconds in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this specification, the value of β is 0.33, indicating a modest improvement over the years studied. However, the t-statistic is 2.26, not significant at 1% or 5% level (R-square: 0.42, no. of observations: 9). Thus, this trend of improvement, although encouraging, is not statistically significant.

[42] Exh. 2B:354 at 18: 3-7 (Hauser Direct Testimony).

Verizon also shows a pattern of improvement, and has met the standard every year since 1996. The following chart demonstrates Pacific's and Verizon's performance from 1991 through 2001.[43]



b) Discussion: Pacific Has Met GO 133-B Standard for TRSAT Since 1999; Verizon Since 1996

On average, Pacific's annual performance was below the standard of 80% of calls answered within 20 seconds from 1991 through 1998. Pacific's performance has met the standard and shown improvement in 1999 through

[43] Exh. 2B:354/Attachment 6 (Hauser Direct Testimony).

2001, but we have not observed a statistically significant improvement over the NRF period 1991-2001.[44]

Verizon's TRSAT failed to meet the minimum standard of 80% of calls answered within 20 seconds in 1993 and in 1995.

According to testimony, since 1994, there have been four months in which Verizon failed to meet the standard under TRSAT.[45] ORA's witness testified that Verizon had met the TRSAT standard 90% of the time since 1992.[46] Our graph clearly shows that Verizon has met the standard since 1996.

We do not agree with TURN that these results for Verizon can be attributed to the Commission's action against *Pacific* after the Commission's Pacific Telesis-SBC merger order (D.97-03-067) threatened Pacific with sanctions for noncompliance with the TRSAT standard. The connection between the two actions is not only too tenuous to draw conclusions with any certainty, but is also

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[44] Following the usual procedure, to determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the percentage of trouble service calls answered within 20 seconds in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of β is 0.75, indicating an improving trend over the years studied. However, the t-statistic is 1.77, not significant at 1% or 5% level (R-square: 0.26, no. of observations: 11). Thus, we do not find that the trend of improvement is statistically significant.

[45] 19 RT 2318:28-2319:20.

[46] Exh. 2B:138 at 6 (Piiru Direct Testimony).

undermined by the fact Verizon generally exceeded the TRSAT minimum standard after D.94-06-011 and before the Commission issued the merger order.

Overall, we find that, while Verizon had problems with respect to trouble report answer time in the early NRF period, Verizon appears to have developed a consistent track record of solid performance since then. On the average we find that Verizon has an improving trend in this area.[47]

7. Business Office Answering Time (BOAT)

a) Position of the Parties

Pacific claimed that the percentages of business office calls answered on time – within the twenty second standard -- have shown steady improvement since 1996, and has exceeded the standard every year starting in 1997.[48]

Verizon claims that "the Business Office and Customer Care or Repair Centers have improved on the speed of answer requirements set by the PUC and

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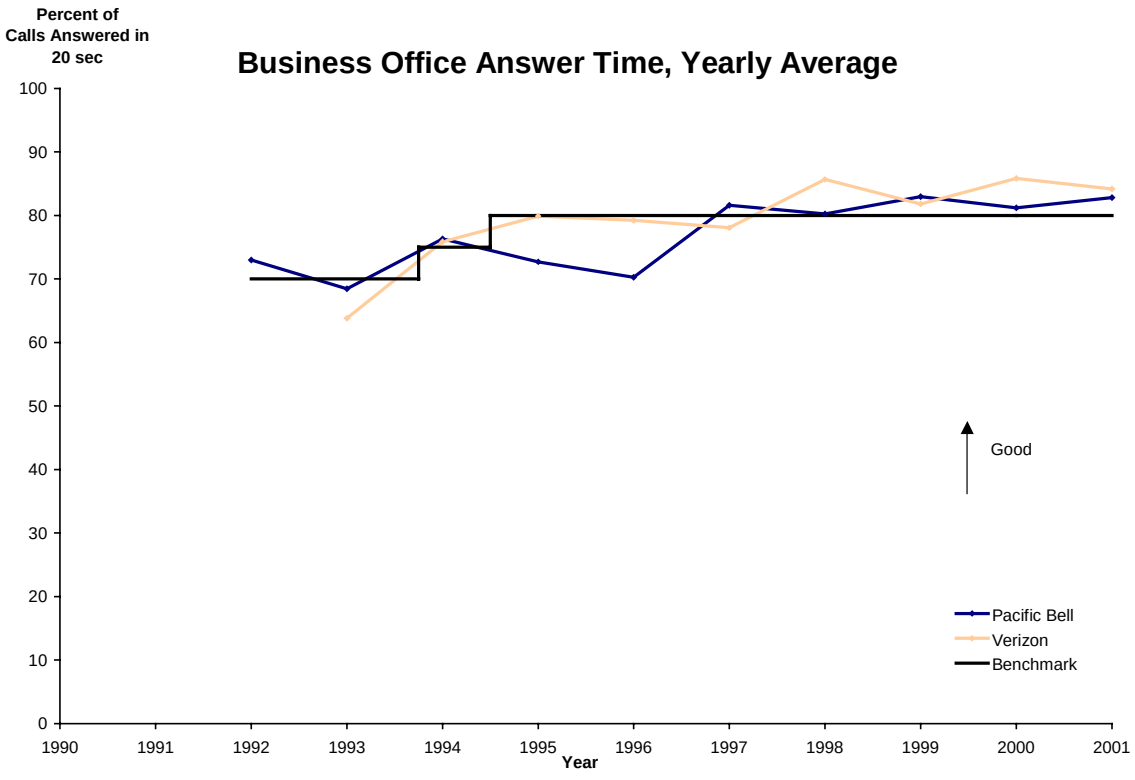
[47] Following the usual procedure, to determine whether there is a significant time trend in Verizon's performance, we derived the coefficients that estimate how Verizon's performance varies over time. In particular, we estimated a regression of Verizon's performance on a linear time trend, $y=\alpha + \beta x$, where y is the percentage of trouble service calls answered within 20 seconds in a given year and x is the year. With this specification, the value of β and its t–statistic determine whether there is a statistically significant time trend. For this measure, the value of β is 1.65, indicating an improving trend over the years studied. Moreover, the t-statistic is 3.36, significant at 5% level (R-square: 0.62, no. of observations: 9). Thus, Verizon's trend of improvement is statistically significant.

[48] Exh. 2B:354 at 18:3-5 (Hauser Direct Testimony).

since the 1996/1997 timeframe, both the Business Office and Customer Care Centers have consistently exceeded the levels established by the PUC."[49]

The following chart shows Pacific's and Verizon's performance in this area.[50] The stepping horizontal line illustrates the performance standard and how it has changed over time.



[49] Exh. 2B:214 at 30:17-20 (Thoms Direct Testimony).

[50] Exh. 2B:354/Attachment 9 (Hauser Direct Testimony).

TURN stated that Pacific's alterations to its GO 133-B BOAT reporting has made it impossible to compare either Pacific's performance over time or to Verizon (or other carriers) without adjustments to reinclude data that Pacific excluded.[51] In particular, up until February 1999, calls regarding billing were included in Pacific's BOAT reporting.

b) Discussion: Pacific Has Met BOAT Standard Since 1997; Verizon Since 1998

The BOAT measure was added to GO 133-B in 1992,[52] and the minimum standard, measured as the percent of calls answered within 20 seconds, was progressively increased from 70% beginning on December 3, 1992, to 75% (beginning October 4, 1993), to 80% (beginning July 5, 1994). (See horizontal line on graph).

Pacific changed its practice regarding inclusion of billing calls in its BOAT reporting. Pacific now excludes billing calls, but included them in its GO 133-B reporting up until February 1999. This exclusion, however, is actually the required practice, because GO 133-B Section 1.3.b defines Business Office as "a Centralized Service Group which receives Small Business and/or Residence Customer requests for new installations or change in existing service. This does not include billing center inquiries." Nevertheless, Pacific's actions to correct this error make it difficult to draw conclusions regarding the meaning of this

[51] TURN Opening Brief at 15.

[52] D.92-05-056.

measure for service quality. Billing inquiries are a major source of customer interaction with the utility, and clearly of interest to those assessing the quality of service. The exclusion of billing inquiries from this measure leaves it unmeasured.

Despite the fact that the GO 133-B standard requires the exclusion of billing inquiries, TURN alleges that Pacific's answer times for billing calls are so poor as to warrant a finding that Pacific has violated Pub. Util. Code § 451. Pacific only answered 20% of billing calls in 20 seconds at one point after February 1999 (GO 133-B requires 80% of business office calls to be answered in that time), and the rate has only improved to approximately 50% of late.[53] Moreover, when these calls are included in the BOAT measure, Pacific's performance falls to 68% of calls answered within 20 seconds, far below the GO 133-B standard.

Both Pacific and TURN recognize that the Commission has not set standards for billing call answer times. In addition, GO 133-B has specifically required their exclusion from its aggregate measure. Since GO 133-B specifically excludes billing inquiries from its measure of BOAT, we do not find that Pacific's performance of 68% or fewer calls answered within 20 seconds is a violation of GO 133-B standards, when billing calls are included in that measure. Therefore, we do not find a § 451 violation of this standard. Nevertheless, Pacific's performance concerning billing call answer time is clearly deficient. The

[53] Exh. 2B:521, Table 1.

failure of this Commission to establish a billing call answer time measure is a gap that the Commission has identified for consideration in R.02-12-004.

Pacific also once included DSL-related information in its GO 133-B data, but stopped doing so when it moved its DSL functions into a separate subsidiary. Thus, this measure has been highly unstable during the reporting period, making it particularly difficult to draw any conclusion concerning the trend in performance.

Based on the data submitted by Pacific, we find that Pacific did not meet the GO 133-B standard in 1993, 1995 and 1996. Pacific's performance has met the standard since 1997. Even though there is a statistically significant positive trend in Pacific's performance, we cannot say whether this improvement is due to the exclusion of billing calls after 1999 or Pacific's actual improvements in performance.[54] Due to lack of evidence on the number of billing calls included in Pacific's performance before 1999, we have not been able to test for it.

We find that, on average, Verizon's BOAT results failed to meet the minimum standard of 80% of calls answered within 20 seconds during the period from 1993 through 1997. Verizon's BOAT performance was clearly substandard

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[54] To determine whether there is a significant time trend in Pacific's performance, we derived the coefficients that estimate how Pacific's performance varies over time. In particular, we estimated a regression of Pacific's performance on a linear time trend, $y=\alpha + \beta x$, where y is the performance in a given year and x is the year. With this specification, the value of coefficient β and its t–statistic determine whether there is a statistically significant time trend. For this specification, the value of β is 1.48, indicating improvement over this time period. More importantly, with a t-statistic 4.01, this trend is statistically different from zero at 1% level (R-square: 0.67, no. of observations: 10). Thus, there is only one chance in a 100 that percentage of the calls answered did not increase over time.

during the early part of the NRF period, but has shown steady improvement since 1997. In particular, Verizon failed to meet this performance standard in 1993, 1996 and 1997, but met the BOAT performance standard in 1994, 1995, and 1998-2001. Overall, Verizon has had a positive performance trend in this measure.[55]

As noted above, GO 133-B defines "Business Office" as "A Centralized Service Group which receives Small Business and/or Residence Customer requests for new installation or change in existing service. This does not include billing center inquiries."[56] However, Verizon states that it includes billing inquiries in its BOAT measure.[57] We do not wish to discourage such voluntary over inclusion, but we will require Verizon to notify us if it seeks to discontinue reporting billing inquiries. As we note elsewhere in this decision, one important use of the GO 133-B data is that we can use it to analyze a carrier's performance over time. Such comparability requires that a carrier seek prior Commission authorization before making changes to the way it reports its data. This is an issue that urgently requires resolution in our service quality rulemaking, which should not only make these measures consistent across companies, but also manage the changes in the data included in measures so to preserve the meaningfulness of these measures.

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[55] We derived coefficients by estimating a regression of Verizon's performance on a linear time trend. For this measure the coefficient was 2.025 with a t-statistic 3.78, significant at 1% level (R-square: 0.67, no. of observations: 9).

[56] *Id.*, Section 1.3(b).

[57] 22 RT 2786:10-17 (statement by Verizon's counsel).

C. Summary of Empirical Assessment of Pacific's and Verizon's Performance on GO 133-B Measures

Concerning the seven GO 133-B measures for which the Commission has required systematic reporting, we find that Pacific has met or exceeded every GO 133-B standard since 1999. During the NRF period, Pacific's faulty definition of held order prevents us from reaching a finding on this measure. On business office answer time (although this measure has serious data problems), we find a trend of improvement. Pacific has shown no statistically significant change in the percentage of line-energizing installation commitments met, the number of customer trouble reports per 100 lines, the yearly average of toll operator assistance answer time, and the yearly average of directory assistance answer time, and trouble service answer time. On no GO 133-B measure of service quality did Pacific show statistically significant decreases in performance during the period under NRF regulation. Thus, we find no evidence from Pacific's performance that supports the hypothesis that NRF regulation decreases customer service quality.

Turning to Verizon, we find that Verizon has complied with all GO 133-B standards since 1998. During the NRF period, Verizon's performance showed statistically significant improvement on the number of customer trouble reports per 100 lines, trouble service answer time, and on business office answer time. Verizon has shown no statistically significant change on the held orders, the percentage of line-energizing installation commitments met, the yearly average of toll operator assistance answer time, and the yearly average of directory assistance answer time. On no GO 133-B measure of service quality did Verizon show statistically significant decreases in performance during the period under NRF regulation. Thus, we find no evidence from Verizon's performance that

supports the hypothesis that NRF regulation decreases customer service quality. Indeed, here we find evidence that Verizon's performance under NRF came to comply with all GO 133-B standards and measures either showed no statistical change or improvement.

IV. Federal Measures of Service Quality – ARMIS and MCOT Data

There are two major sets of Federal measures of service quality. The first set, known as the ARMIS measures, has been in place since 1987. More recently, as a condition of large telecommunications mergers, the FCC adopted additional service quality measures, known as MCOT measures. We now turn our attention to these measures of service quality.

A. ARMIS Measures

The FCC requires the carriers to submit reports on several aspects of service quality, and the results for relevant years appear in the record of this proceeding.[58] The Automated Reporting Management Information System (ARMIS) data stem from FCC Common Carrier Docket No. 87-313, which implemented service quality reporting requirements for local exchange carriers such as Pacific and Verizon. In 1991, the FCC added specific reports to collect service quality and network infrastructure information.

The ARMIS 43-05 report contains service quality performance measures which track, among other things, whether Pacific or Verizon meet their installation commitments for residential and business customers, trouble reports and repair intervals (*e.g.,* both initial and repeat trouble reports, and the time

[58] Exhs. 2B:707 (Verizon) and 2B:704 & 2B:706 (Pacific).

required to dispatch and complete repairs in response to trouble reports), and switch downtime incidents.[59] While there are no performance standards associated with these reports, they track very important service quality measures.

The ARMIS 43-06 report tracks customer perceptions of Pacific's and Verizon's service quality and will be discussed in the Section entitled "Survey Data and Customer Satisfaction".

B. Accuracy of Data

1. General Issues with Pacific's Data

A key issue in the proceeding concerned the accuracy of the service quality data that Pacific reports to the FCC as part of its ARMIS reporting obligations. ORA claims that even where Pacific reports positive ARMIS results, the results are unreliable because of errors in the underlying data. Initially, ORA claimed Pacific provided ORA inaccurate installation data for the period 1998-2001. It later changed that assertion to limit the period of claimed inaccuracy to 1998-99, and we limit consideration of the accuracy of Pacific's data to this time period.[60]

ORA relied principally on the work of Linette Young in this area. Ms. Young downloaded Pacific's raw data into a database format, and then compared it to Pacific's summary data as reported in ARMIS. Where there were inconsistencies across these two sets of data, ORA assumed the ARMIS reports

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[59] The ARMIS reports appear in the record as Exhibits 704 and 706.

[60] *Errata to Opening Brief of the Office of Ratepayer Advocates in Service Quality in Phase 2B,* filed Sept. 10, 2002, at 1; *Second Errata to Opening Brief of the Office of Ratepayer Advocates on Service Quality in Phase 2B,* filed Sept. 11, 2002, at 1.

were inaccurate. ORA made many corrections to the data over time as Pacific pointed out problems.

Ultimately, it became apparent that the data mismatches that ORA found were due not to Pacific's misrepresentations, but rather to differences between the raw data ORA examined and the data Pacific uses to report to regulators. For example, Pacific modifies its raw data to remove certain types of telephone services that the ARMIS regulatory requirements do not include. We find, therefore, that ORA did not establish that Pacific misreports its installation service results. Therefore, we deny ORA's recommendation that we conduct an audit of Pacific's historic installation data to determine the extent of data error and its subsequent impact on reported service quality results during the NRF period. We do not agree that such an audit is appropriate, since we conclude that ORA did not show that Pacific's installation data are inaccurate.[61]

However, this incident illustrates the difficulties that arise when interactions between a utility and its regulators become needlessly adversarial. Pacific should have been far more helpful to ORA in pointing out problems with Pacific's data up front. Pacific knew that ORA had requested raw data to allow it to test Pacific's results.[62] ORA, on the other hand, could have simply asked

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[61] Our rejection of ORA's recommendation does not in any way preclude the Commission staff from reviewing in the future Pacific's service quality data or its data collection and reporting methods. Similarly, in denying this recommendation, we do not intend to preclude proposals in Phase 3B designed to ensure the accuracy of data reported to regulators, through audits or any other means.

[62] Indeed, Pacific's own staff worked on testing Ms. Young's results, making clear that Pacific was well aware of the ORA's purpose for requesting the data. Exh. 2B:357 at 29 (Resnick Reply Testimony) ("At my direction, several analysts in [Pacific's] Network

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Pacific why the raw data did not match the ARMIS data. Instead, ORA conducted its analysis without any collegial interaction with Pacific, and Pacific responded by pointing out flaws after receiving ORA's testimony. This approach to regulation wastes Commission time and results in regulatory drama, but little more. Most importantly, it hinders the development of a clear evidentiary record.

As it was, ORA had to change its analysis each time Pacific explained problems in translating its raw data to reports made for regulatory purposes. In the end, the proceeding could have been much more productive had all such translation errors been resolved beforehand.

We next address ORA's specific allegations regarding the accuracy of Pacific's data.

2. Pacific's Data Concerning Installation Orders Require Clarification

ORA claims its analysis shows that Pacific closes installation orders before they are complete. This would have the effect of systematically understating installation intervals in regulatory reports. ORA bases its conclusion on its examination of four informal complaints from residential customers who ordered multiple telephone lines at the same time. These lines were to be installed at the same address on the same commitment date. Ms. Young testified that when it was discovered there were not sufficient facilities available to install both lines, "apparently what occurred was Pacific installed one line, closed the

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Services [organization] have worked with the data supplied by Ms. Young in her workpapers.").

order and then reopened or initiated a second order for the second line." ORA is speculating on this point in its use of the term "apparently what occurred." Pacific pointed out that ORA was speculating, and also stated "lack of facilities for four customers does not constitute a widespread problem."

We agree that there is not enough evidence in the record for us to conclude that Pacific is closing installation orders prematurely. Because the record is unclear on this issue, we order Pacific to file and serve data in the form of a compliance filing in this docket that affirmatively addresses this point within 30 days of the effective date of this decision. Pacific shall answer the following questions in its submission:

a. Has Pacific at any time during the period 1990-2002 closed installation orders containing multiple lines to be installed on the same order after a portion of - but not all - the lines were installed?
b. If the answer to the previous question is yes, produce an annual summary of the number of such orders.
c. If Pacific reports that any multi-line order was closed before all lines associated with that order were installed, explain in detail how Pacific accounts for such orders when calculating its installation intervals for purposes of any regulatory reporting requirements.

3. Allegation that Pacific's Reports Contain Erroneous Duplicate Records Has No Factual Basis

ORA also argued that the presence of "duplicate" records among the data Pacific provided it indicates there are errors in Pacific's data. However, ORA states in this regard that "ORA does not claim that all duplicate records are

erroneous records,"[63] and indeed later appears to concede that "the duplicate records should be included" in Pacific's calculation of its installation intervals.[64] ORA also confusingly asserts that, [t]he "erroneous duplicate records" that Pacific refers to are the same anomalous records (orders for basic service that do not contain commitment dates), which Pacific has previously claimed are not erroneous records. After having argued for the inclusion of the duplicate and anomalous records, Pacific cannot now claim that these 'erroneous duplicate records' are erroneous."[65]

It appears from its statement that ORA no longer claims there is a problem with Pacific's data due to the presence of duplicate records, and we find that this allegation has no factual basis

4. Allegation that Pacific's Reports Contain Erroneous "Anomalous Records" Has No Factual Basis

ORA also claims there is a problem with "anomalous records" – records without "commit dates" (dates on which Pacific committed it would complete an installation). ORA's witness believed these records were suspicious based on her belief that "no order for services could flow through Pacific's systems without a commitment date." She claims Pacific told her of this restriction several times, but submitted no written evidence in the record of such a representation by Pacific. Indeed, the evidence is to the contrary. As Pacific points out, it is

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[63] ORA Reply/Service Quality at 3.

[64] *Id.* at 5.

[65] *Id.*

appropriate that certain orders – related to "supersedures" where a new resident at an address takes over the phone service of the existing customer – not contain "commit dates."

5. Verizon's Data Are Accurate

ORA raised similar issues concerning Verizon's data. ORA asserts that Verizon's data includes duplicate data, that data fails to track across different data bases, that data on installation intervals is unreliable, that the data on the number of commitments met is in error, and that Verizon closes service orders too soon.

Verizon successfully responded to each of these challenges.

We find that ORA's challenges to Verizon's data almost identical to their challenges to Pacific's and suffer from the same deficiencies. We reject ORA's challenges to Verizon's data for essentially the same reasons.

Although our experience with regulation makes us sympathetic to the complexities of data reporting and analysis, we find that many of the allegations arise from simple misinterpretations by ORA of the data presented to ORA by Verizon. For example, ORA alleged that any installation order that was reopened within 60 days represented a premature closing of the service record by Verizon. In response, Verizon noted that this is a common occurrence and explained by a variety of phenomena, and Verizon explained each of the examples used by ORA to illustrate its allegation. Thus, ORA's allegation of misreporting of data was shown to have no validity.

Our purpose in an administrative proceeding such as this is to develop an evidentiary record that supports reasonable decisionmaking. As we noted above, professional collaboration between regulator and the regulated on data

matters, in particular, serves the public interest better than adversarial interactions.

C. Summary Table of ARMIS 43-05 Measures

For the measures reported in ARMIS 43-05, we examined each carrier's performance over the years, and compared it with each other and with the performance of the reference group.[66] The major results of our statistical analysis are reported in the tables that follow.[67] Although we present the analysis at this point as a reference matter, we will not discuss the results in this section. Subsequently, we describe each measure and we graph each carrier's performance in each of these measures.[68] In these subsequent sections, we will

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[66] The reference group is introduced in Hauser's direct testimony and consists of the top ten local exchange carriers based on the number of total access lines in 2001. These companies include Verizon-NY Telephone, Southwestern-Texas, Illinois Bell, Verizon-New Jersey, Bell South-Florida, Verizon-Pennsylvania, Michigan Bell, GTE/CA, Verizon-New England, and Bell South-GA. We note that our analysis will include GTE/CA in both the reference group and as a company subject to analysis. Although this is not the preferred mode of data analysis, since GTE/CA's performance exceeds both that of Pacific and the reference group for majority of the measures, including GTE/CA in the reference group leads to comparisons that understate the performance of both Pacific and GTE/CA in comparison to a reference group of utilities outside of California.

[67] The first table, Trend in Pacific Bell ARMIS Performance, is from Exh.2B: 354/Attachment 5 (Hauser Reply Testimony).

[68] The graphs and tables are based on ARMIS data reported by carriers to the FCC. Prior to 1996, carriers reported ARMIS data on a quarterly basis, and thereafter, annually. For years reporting quarterly data, quarterly results are summed to obtain annual trouble reports. Annual repair intervals are obtained by weighting and combining the quarterly data (i.e., multiplying quarterly repair intervals by quarterly

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comment on each utility's performance and indicate whether any improving or deteriorating trend is observed and discuss the results of our statistical analysis at that point. The reader unfamiliar with statistical analysis may jump over these tables to our subsequent discussion.

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trouble reports, summing the results and dividing the summed result by annual trouble reports). Similarly, Verizon's annual trouble reports are obtained by summing GTE California (GTEC) and Contel trouble reports, and Verizon's repair intervals are obtained by weighting and combining the GTEC and Contel repair intervals. Contel data was included starting 1997 since Verizon and Contel merged their operations in April 1996.

Trend in Pacific Bell ARMIS Performance

Source: ARMIS 43-05

Measures for which a Negative Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Number of Trouble Reports Per 100 Lines	Initial Trouble Reports	Residence	-0.179	(-0.69)	0.05	11
		Business	-0.609	(-5.52)**	0.77	11
	Repeat Trouble Reports	Residence	0.002	(0.05)	0.00	11
		Business	-0.183	(-9.87)**	0.92	11
	Initial Out-of-Service	Residence	-0.012	(-0.04)	0.00	8
		Business	-0.024	(-0.29)	0.01	8
	Repeat Out-of-Service	Residence	-0.020	(-0.41)	0.03	8
		Business	-0.030	(-3.56)*	0.68	8
	Initial Subsequent Trouble Reports	Residence	N/A[4]			
		Business	N/A[4]			
	Repeat Subsequent Trouble Reports	Residence	N/A[4]			
		Business	N/A[4]			
	Initial All Other Trouble Reports	Residence	0.502	(3.14)*	0.62	8
		Business	-0.231	(-4.16)**	0.74	8
	Repeat All Other Trouble Reports	Residence	0.077	(3.05)*	0.61	8
		Business	-0.098	(-5.62)**	0.84	8
Repair Interval	Initial Out-of-Service	Residence	1.328	(0.85)	0.11	8
		Business	0.204	(0.63)	0.06	8
	Repeat Out-of-Service	Residence	0.855	(0.59)	0.06	8
		Business	0.234	(0.58)	0.05	8
	Initial All Other	Residence	0.073	(0.05)	0.00	8
		Business	-0.875	(-2.49)*	0.51	8
	Repeat All Other	Residence	0.495	(0.31)	0.02	8
		Business	-0.752	(-1.92)	0.38	8
Installation	Average Installation Interval	Residence	-0.096	(-1.40)	0.25	8
		Business	-0.079	(-1.32)	0.22	8
Switch Downtime	Downtime per Switch Down	Total[2]	-1.287	(-2.02)	0.31	11
	Switches Down per Switch	Total[2]	-0.000	(0.00)	0.00	6
Number of Occurrences	Over Two Minutes per Switch	Total[2]	0.019	(0.80)	0.14	6
	Under Two Minutes per Switch	Total[2]	-0.016	(-2.95)*	0.69	6
	Percent Unscheduled (under two minutes)	Total[2]	-0.015	(-0.57)	0.07	6

Measures for which a Positive Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Installation	Installation Commitments Met	Residence	-0.038	(-1.15)	0.13	11
		Business	-0.176	(-4.51)**	0.69	11

Notes:
1. These coefficients were derived by estimating a regression of Pacific's performance on a linear time trend.
2. Total is derived by summing the total of the Metropolitan Statistical Areas and the total of non-Metropolitan Statistical Areas for each company, and then taking the average.
3. If a t-statistic is significant at a 5% level, it is given an asterisk (*). If a t-statistic is significant at a 1% level, it is given two asterisks (**).
4. These measurements only have 4 observations, so the results are not reported. Three of them are statistically insignificant and the fourth shows a significant decline in the number of subsequent trouble reports per 100 lines (i.e. improved Pacific performance).

Trend in Verizon ARMIS Performance

Source: ARMIS 43-05

Measures for which a Negative Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Number of Trouble Reports Per 100 Lines	Initial Trouble Reports	Residence	-0.67	(-2.89)*	0.48	11
		Business	-0.60	(-6.74)**	0.83	11
	Repeat Trouble Reports	Residence	-0.16	(-3.66)**	0.60	11
		Business	-0.13	(-2.82)*	0.47	11
	Initial Out-of-Service	Residence	-0.01	(-0.14)	0.00	8
		Business	-0.30	(-4.16)**	0.74	8
	Repeat Out-of-Service	Residence	0.00	(0.02)	0.00	8
		Business	-0.11	(-1.34)	0.23	8
	Initial All Other Trouble Reports	Residence	-0.12	(-1.45)	0.26	8
		Business	-0.55	(-8.37)**	0.92	8
	Repeat All Other Trouble Reports	Residence	-0.02	(-1.22)	0.20	8
		Business	-0.11	(-7.47)**	0.90	8
Repair Interval	Initial Out-of-Service	Residence	0.44	(1.01)	0.15	8
		Business	-0.13	(-0.85)	0.11	8
	Repeat Out-of-Service	Residence	0.60	(1.45)	0.26	8
		Business	0.08	(0.47)	0.03	8
	Initial All Other	Residence	0.69	(2.55)*	0.52	8
		Business	0.02	(0.19)	0.00	8
	Repeat All Other	Residence	0.77	(2.54)*	0.52	8
		Business	0.16	(0.97)	0.14	8
Installation	Average Installation Interval	Residence	-0.20	(-0.92)	0.12	8
		Business	-0.17	(-0.64)	0.06	8
Switch Downtime	Downtime per Switch Down	Total[2]	7.95	(4.28)**	0.67	11
	Switches Down per Switch	Total[2]	-0.01	(-4.02)**	0.64	11
Number of Occurrences	Under Two Minutes per Switch	Total[2]	-0.04	(-4.63)**	0.70	11
	Percent Unscheduled (under two minutes)	Total[2]	0.05	(3.65)**	0.60	11

Measures for which a Positive Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Installation	Installation Commitments Met	Residence	-0.05	(-0.69)	0.05	11
		Business	-0.05	(-0.43)	0.02	11

Notes:

1. These coefficients were derived by estimating a regression of Verizon's performance on a linear time trend.
2. Total is derived by summing the total of the Metropolitan Statistical Areas and the total of non-Metropolitan Statistical Areas.
3. If a t-statistic is significant at a 5% level, it is given an asterisk (*). If a t-statistic is significant at a 1% level, it is given two asterisks (**).

Comparison of Pacific ARMIS Performance with the Reference Group ARMIS Performance

Source: ARMIS 43-05

Measures for which a Negative Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Number of Trouble Reports Per 100 Lines	Initial Trouble Reports	Residence	-7.16	(-4.78)**	0.53	22
		Business	-5.51	(-4.84)**	0.54	22
	Repeat Trouble Reports	Residence	-1.68	(-8.79)**	0.79	22
		Business	-0.85	(-3.67)**	0.4	22
	Initial Out-of-Service	Residence	-3.28	(-4.41)**	0.58	16
		Business	-3.01	(-7.39)**	0.8	16
	Repeat Out-of-Service	Residence	-0.97	(-5.16)**	0.66	16
		Business	-0.74	(-6.92)**	0.77	16
	Initial All Other Trouble Reports	Residence	-2.79	(-3.56)**	0.48	16
		Business	-2.35	(-4.55)**	0.6	16
	Repeat All Other Trouble Reports	Residence	-0.86	(-8.04)**	0.82	16
		Business	-0.37	(-3.11)**	0.41	16
Repair Interval	Initial Out-of-Service	Residence	12.76	(3.50)**	0.47	16
		Business	-1.41	(-1.45)	0.13	16
	Repeat Out-of-Service	Residence	15.08	(4.6)**	0.6	16
		Business	-0.04	(-0.04)	0	16
	Initial All Other	Residence	11.50	(2.9)*	0.38	16
		Business	0.18	(0.11)	0	16
	Repeat All Other	Residence	12.19	(3.22)**	0.43	16
		Business	1.82	(1.25)	0.1	16
Installation	Average Installation Interval	Residence	-0.03	(-0.11)	0	16
		Business	0.60	(1.65)	0.16	16
Switch Downtime	Downtime per Switch Down	Total[2]	-14.10	(-4.21)**	0.46	22

Measures for which a Positive Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Installation	Installation Commitments Met	Residence	0.27	(2.02)	0.17	22
		Business	1.05	(2.84)*	0.29	22

Notes:

1. These coefficients are the estimates of the difference between the average performance of Pacific and the reference group and they are derived by estimating a regression with a dummy variable with value 1 if data belongs to Pacific and 0 if the reference group. A negative coefficient indicates that the average performance of Pacific has a lower value. For measures for which a negative coefficient is indicative of better performance, a negative coefficient implies that Pacific's average performance is better than that of the reference group. For measures for which a positive coefficient is indicative of better performance, a negative coefficient implies that Pacific's average performance is worse than that of the reference group.
2. Total is derived by summing the total of the Metropolitan Statistical Areas and the total of non-Metropolitan Statistical Areas.
3. If a t-statistic is significant at a 5% level, it is given an asterisk (*). If a t-statistic is significant at a 1% level, it is given two asterisks (**).

Comparison of Verizon ARMIS Performance with the Reference Group ARMIS Performance

Source: ARMIS 43-05

Measures for which a Negative Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Number of Trouble Reports Per 100 Lines	Initial Trouble Reports	Residence	-11.35	(-7.10)**	0.72	22
		Business	-3.8	(-3.40)**	0.37	22
	Repeat Trouble Reports	Residence	-3.08	(-11.93)**	0.88	22
		Business	-0.88	(-3.73)**	0.41	22
	Initial Out-of-Service	Residence	-8.77	(-25.88)**	0.98	16
		Business	-3.71	(-7.84)**	0.81	16
	Repeat Out-of-Service	Residence	-2.31	(-14.38)**	0.94	16
		Business	-0.72	(-3.23)**	0.43	16
	Initial All Other Trouble Reports	Residence	-1.87	(-3.18)**	0.42	16
		Business	0.65	(0.95)	0.06	16
	Repeat All Other Trouble Reports	Residence	-1.21	(-17.26)**	0.96	16
		Business	-0.21	(-1.67)	0.17	16
Repair Interval	Initial Out-of-Service	Residence	-6.73	(-4.99)**	0.64	16
		Business	-5.48	(-7.25)**	0.79	16
	Repeat Out-of-Service	Residence	-6.68	(-4.83)**	0.62	16
		Business	-5.77	(-7.61)**	0.81	16
	Initial All Other	Residence	-13.37	(-6.34)**	0.74	16
		Business	-6.15	(-5.06)**	0.65	16
	Repeat All Other	Residence	-13.59	(-7.33)**	0.79	16
		Business	-7.22	(-6.78)**	0.77	16
Installation	Average Installation Interval	Residence	0.46	(0.85)	0.05	16
		Business	1.32	(1.97)	0.22	16
Switch Downtime	Downtime per Switch Down	Total[2]	12.9	1.29	0.08	22

Measures for which a Positive Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Installation	Installation Commitments Met	Residence	0.22	(0.86)	0.04	22
		Business	-0.48	(-1.02)	0.05	22

Notes:
1. These coefficients are the estimates of the difference between the average performance of Verizon and the reference group and they are derived by estimating a regression with a dummy variable with value 1 if data belongs to Verizon and 0 if the reference group. A negative coefficient indicates that the average performance of Verizon has a lower value. For measures for which a negative coefficient is indicative of better performance, a negative coefficient implies that Verizon's average performance is better than that of the reference group. For measures for which a positive coefficient is indicative of better performance, a negative coefficient implies that Verizon's average performance is worse than that of the reference group.
2. Total is derived by summing the total of the Metropolitan Statistical Areas and the total of non-Metropolitan Statistical Areas.
3. If a t-statistic is significant at a 5% level, it is given an asterisk (*). If a t-statistic is significant at a 1% level, it is given two asterisks (**).

Comparison of Verizon ARMIS Performance with Pacific ARMIS Performance

Source: ARMIS 43-05

Measures for which a Negative Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Number of Trouble Reports Per 100 Lines	Initial Trouble Reports	Residence	-4.19	(-3.34)**	0.36	22
		Business	1.71	(1.79)	0.14	22
	Repeat Trouble Reports	Residence	-1.4	(-6.01)**	0.64	22
		Business	-0.03	(-0.10)	0	22
	Initial Out-of-Service	Residence	-5.49	(-7.6)**	0.81	16
		Business	-0.7	(-2.04)	0.23	16
	Repeat Out-of-Service	Residence	-1.34	(-11.69)**	0.91	16
		Business	0.02	(0.1)	0	16
	Initial All Other Trouble Reports	Residence	0.91	(1.55)	0.15	16
		Business	2.99	(5.43)**	0.68	16
	Repeat All Other Trouble Reports	Residence	-0.35	(-3.88)**	0.52	16
		Business	0.16	(1.17)	0.09	16
Repair Interval	Initial Out-of-Service	Residence	-19.49	(-5.32)**	0.67	16
		Business	-4.07	(-5.17)**	0.66	16
	Repeat Out-of-Service	Residence	-21.76	(-6.59)**	0.76	16
		Business	-5.73	(-5.93)**	0.72	16
	Initial All Other	Residence	-24.87	(-7.00)**	0.78	16
		Business	-6.32	(-5.75)**	0.7	16
	Repeat All Other	Residence	-25.79	(-7.26)**	0.79	16
		Business	-9.04	(-8.09)**	0.82	16
Installation	Average Installation Interval	Residence	0.5	(0.96)	0.06	16
		Business	0.72	(1.2)	0.09	16
Switch Downtime	Downtime per Switch Down	Total[2]	27.03	(2.71)*	0.27	22

Measures for which a Positive Coefficient is Indicative of Better Performance

Measurement Subject	Measurement	Group Covered	Coefficient[1]	T-statistic[3]	R-squared	Number of Observations
Installation	Installation Commitments Met	Residence	-0.05	(-0.21)	0	22
		Business	-1.53	(-3.68)**	0.4	22

Notes:

1. These coefficients are the estimates of the difference between the average performance of Verizon and Pacific and they are derived by estimating a regression with a dummy variable with value 1 if data belongs to Verizon and 0 if Pacific. A negative coefficient indicates that the average performance of Verizon has a lower value. For measures for which a negative coefficient is indicative of better performance, a negative coefficient implies that Verizon's average performance is better than that of Pacific. For measures for which a positive coefficient is indicative of better performance, a negative coefficient implies that Verizon's average performance is worse than that of Pacific.
2. Total is derived by summing the total of the Metropolitan Statistical Areas and the total of non-Metropolitan Statistical Areas.
3. If a t-statistic is significant at a 5% level, it is given an asterisk (*). If a t-statistic is significant at a 1% level, it is given two asterisks (**).

1. The Number of Initial Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

The first ARMIS measure we examine is the number of initial trouble reports for a utility normalized on the number of access lines in the utility. These reports are related to problems that have not been reported within the thirty-day period. The normalization based on the number of access lines allows comparison among carriers and over time.

For residential lines, a visual inspection of the graph below shows that Pacific's performance exceeds that of the reference group and suggests that it is improving over time. Unfortunately, the statistical analysis indicates that Pacific's performance on this measure of residential service does not demonstrate a statistically significant upward or downward trend.[69] Pacific's average residential performance, however, is significantly better than the average of the reference group.[70]

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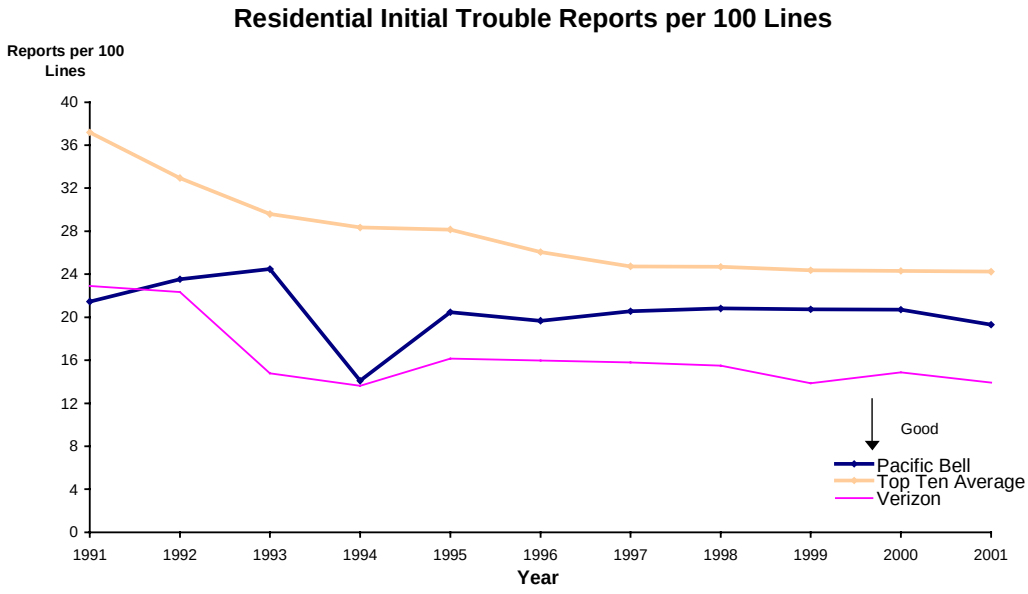
[69] The coefficient is -0.179 with t-statistic -0.69. Although this indicates a slight decrease in the number of trouble reports over time, it is not significant at 1% or 5% level (R-square: 0.05, no. of observations: 11).

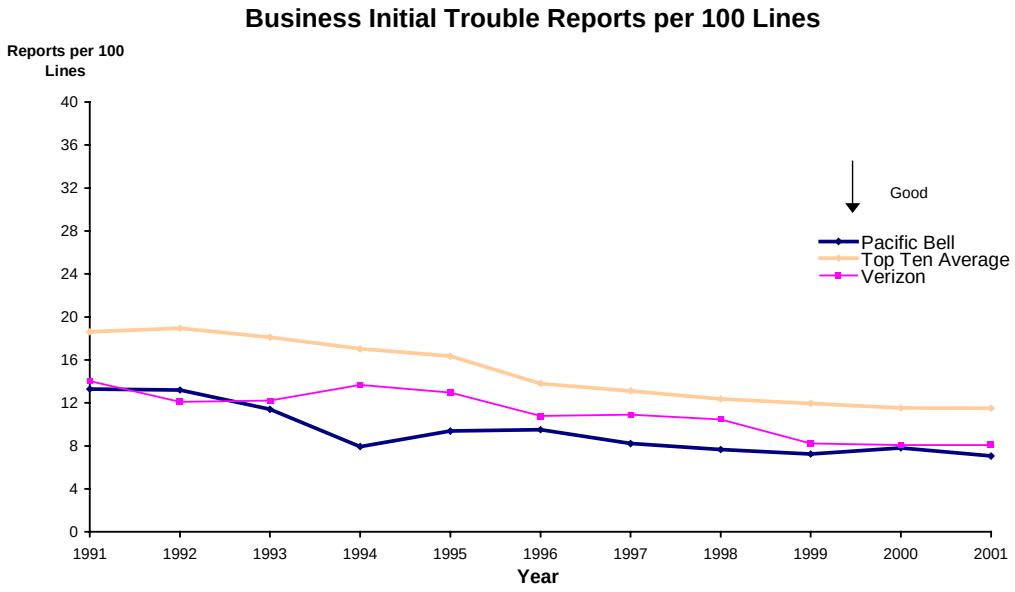
[70] For residential lines, the coefficient is -7.16 with t-statistic -4.78, significant at 1% level (R-square: 0.53, no. of observations: 22).

For business lines, we observe a statistically significant downward trend, which is an indicator of improving performance.[71] Pacific's average business performance is significantly better than the average of the reference group.[72]



[71] The coefficient is -0.609 with t-statistic -5.52, significant at 1% level (R-square: 0.77, no. of observations: 11).

[72] For business customers, the coefficient is -5.51 with t-statistic -4.84, significant at 1% level (R-square: 0.54, no. of observations: 22).



Turning now to Verizon, we see an even better story. For both residential and business lines, Verizon has demonstrated an improving trend and its average performance is significantly better than the average of the reference group.[73] The average performance of Verizon is also better than Pacific for residential lines, but for business lines, the difference between the average performances is not statistically significant.[74]

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[73] For residential lines, the coefficient is -0.67 with t-statistic -2.89, significant at 5% level (R-square: 0.48, no. of observations: 11). For business lines, the coefficient is -0.6 with t-statistic -6.74, significant at 1% level (R-square: 0.83, no. of observations: 11). In comparison with the reference group, for the residential lines, the coefficient is -11.35 with t-statistic -7.10, significant at 1% level (R-square: 0.72, no. of observations: 22). For the business lines, the coefficient is –3.8, with t-statistic –3.4, significant at 1% level (R-square: 0.37, no. of observations: 22).

[74] For residential lines, the coefficient is –4.19 with t-statistic –3.34, significant at 1% level (R-square: 0.36, no. of observations: 22). For business lines, the coefficient is 1.71 with t-statistic 1.79, not significant at 1% or 5% level (R-square: 0.14, no. of observations: 22).

In summary, both Pacific and Verizon show good performance on this measure of service quality, initial trouble reports per 100 access lines for both residential and business customers. Verizon exhibits a better record than Pacific.

2. The Number of Repeat Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

The number of repeat trouble reports per 100 lines are the reports concerning service quality that are received within thirty days after the resolution of an initial trouble report on the same line. This is a measure of the extent to which a utility has successfully resolved a trouble report on the first try.

A visual inspection of the graph below suggests that Pacific's number of repeat trouble reports per 100 residential lines has not varied much over the years under review. Statistical analysis confirms our visual impression, and does not demonstrate a statistically significant upward or downward trend for residential lines.[75]

A visual inspection of the next graph shows that, for business lines, Pacific's number of repeat trouble reports has improved. Statistical analysis documents this downward trend and finds it statistically significant.[76] This leads us to conclude that Pacific's performance has demonstrated improvement.

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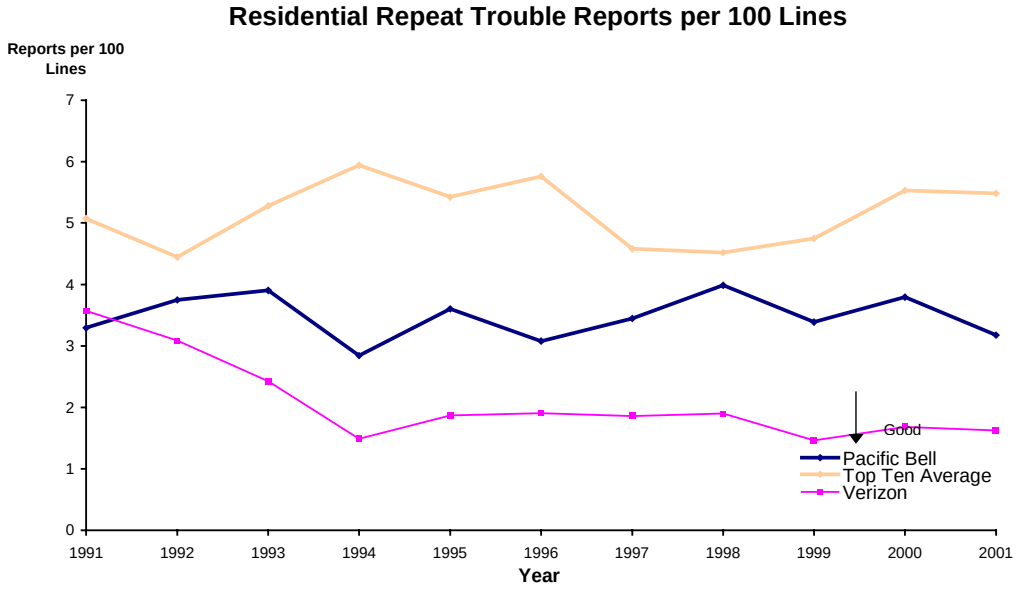
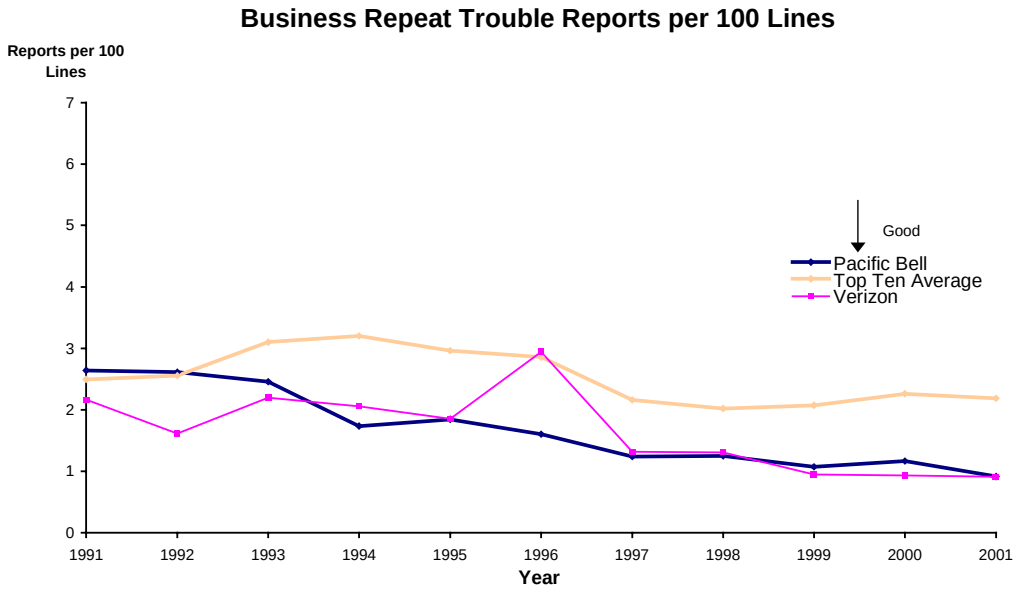
[75] The coefficient is 0.002 with t-statistic 0.05, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 11).

[76] The coefficient is -0.183 with a t-statistic -9.87, significant at 1% level (R-square: 0.92, no. of observations: 11).

Finally, we observe that on both residential and business service, Pacific's repeat trouble reports appear to fall below the reference group. Our statistical analysis indicates that difference between Pacific and the reference group's average performances is statistically significant.[77] This leads us to conclude that on this measure, Pacific's performance is better than the reference group.



[77] For residential lines, the coefficient is –1.68, with t statistic –8.79, significant at 1% level (R-square: 0.79, no. of observations: 22). For business lines, the coefficient is –0.85, with t-statistic –3.67, significant at 1% level (R-square: 0.40, no. of observations: 22).



Turning now to Verizon, we find a similar story of good and improving service. A visual inspection shows that Verizon's residential repeat trouble reports fall far below the reference group and show a consistent pattern of improvement. For business repeat trouble reports, our visual inspection shows that with exception of 1996, Verizon shows a record of service better than that offered in the reference group. Statistical analysis confirms our visual impression. Verizon has an improving trend for business and residential lines and its average performance is significantly different than the reference group.[78]

[78] The coefficient for the residential lines is -0.16 with t-statistic -3.66, significant at 1% level (R-square: 0.60, no. of observations: 11). The coefficient for business lines is -0.13 with a t-statistic -2.82, significant at 5% level (R-square: 0.47, no. of observations: 11). In comparison with the reference group, for residential lines, the coefficient is –3.08 with t-statistic –11.93, significant at 1% level (R-square: 0.88, no. of observations: 22). For business lines, the coefficient is –0.88 with t-statistic –3.73, significant at 1% level (R-square: 0.41, no. of observations: 22).

Verizon's average performance is significantly different (and better) than Pacific for only residential lines.[79]

In summary, both companies exhibit good service quality on these measures, significantly better than that of the reference group. On average, Verizon's performance is better than Pacific's, and this difference is statistically significant for only residential lines.

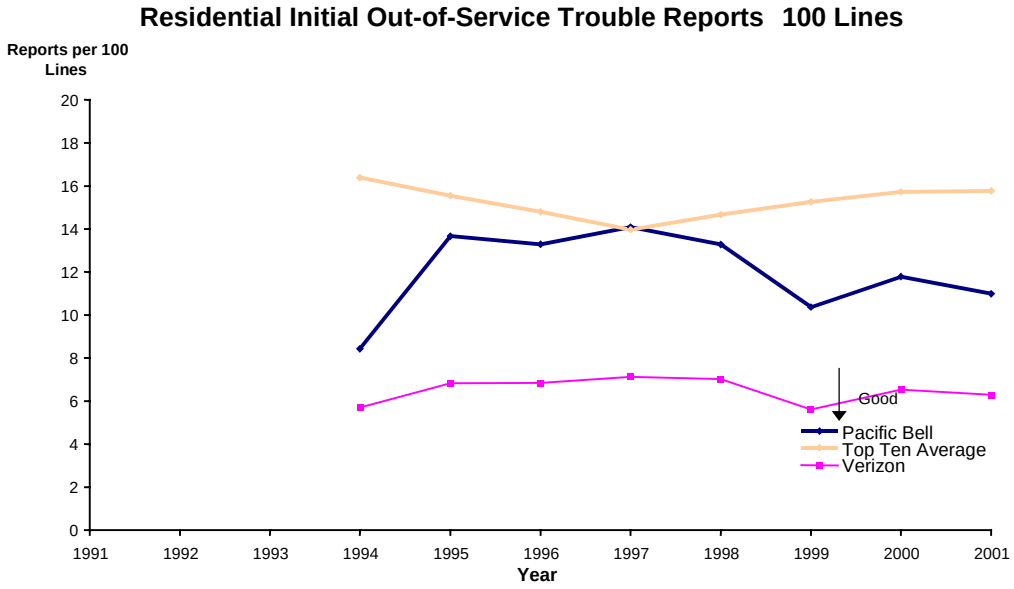
3. The Number of Initial Out-of-Service Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

The initial out-of-service trouble reports refer to the troubles that cause the customer to be totally without telephone service. A visual inspection of the graphs below shows that Pacific's residential performance improved since 1997 and its business performance does not exhibit an upward or downward trend, and both appear better than the reference group. Our statistical analysis confirms that both these impressions are accurate. Pacific's performance does not exhibit a statistically significant upward or downward trend.[80] Pacific's

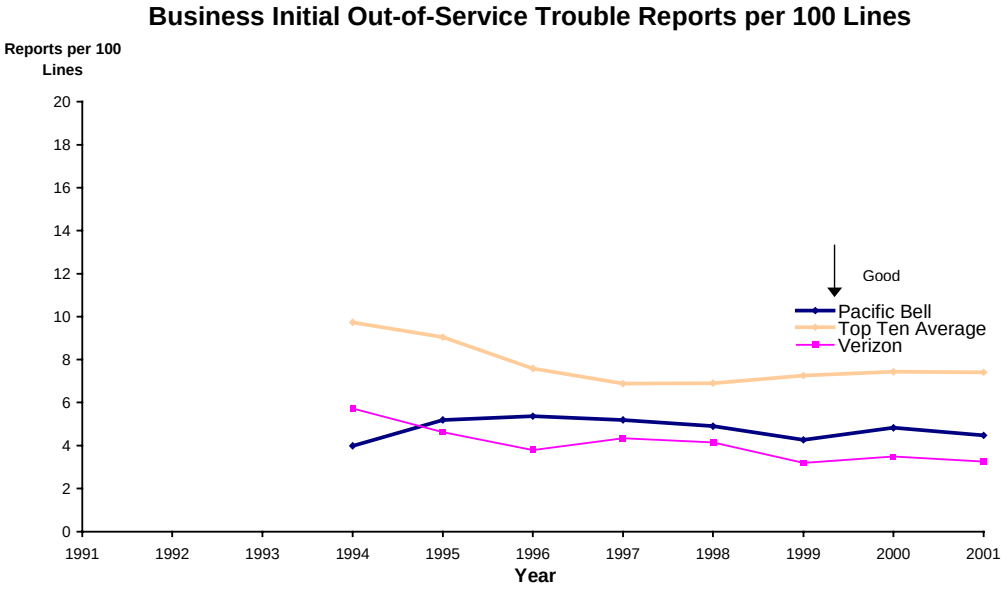
[79] For residential lines, the coefficient is –1.4 with t-statistic –6.01, significant at 1% level (R-square: 0.64, no. of observations: 22). For business lines, the coefficient is –0.03, with t-statistic –0.10, not significant at 1% or 5% level (R-square:0, no. of observations: 22).

[80] For residential lines, the coefficient is –0.012 with t-statistic -0.04, not significant at 1% level or 5% level (R-square: 0.00, no. of observations: 8). Similarly, for business lines, the coefficient is -0.024, with a t-statistic of -0.29, not significant at 1% or 5% level (R-square: 0.01, no. of observations: 8).

average performance has been significantly better than the average of the reference group.[81]



[81] For residential lines, the coefficient is –3.28 with t-statistic –4.41, significant at 1% level (R-square: 0.58, no. of observations: 16). For business lines, the coefficient is –3.01 with t-statistic –7.39, significant at 1% level (R-square: 0.80, no. of observations: 16).



A visual inspection of the graphs above indicates that Verizon's performance is far below the reference group, and better than Pacific's for both residential and business lines. Moreover, a visual inspection suggests that for business lines, Verizon shows a record of improvement over time. A statistical analysis confirms our visual conclusions. Verizon's performance exhibits a declining trend for its business lines, which indicates an improving performance.[82] Our analysis finds no statistically significant upward or downward trend in Verizon's performance for residential lines.[83] Verizon's

[82] The coefficient is -0.3 with a t-statistic -4.16, significant at 1% level (R-square: 0.74, no. of observations: 8).

[83] The coefficient is –0.01 with t-statistic –0.14, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 8).

average performance has been better than the average of the reference group.[84] It also outperformed Pacific for residential lines.[85]

4. The Number of Repeat Out-of-Service Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

A visual inspection of the graphs below shows that Pacific's performance for residential lines does not exhibit a downward or upward trend, while its performance for business lines shows a slightly downward trend. Pacific's performance in both categories appear better than that of the reference group. Our statistical analysis confirms both these impressions. Pacific's performance does not demonstrate a statistically significant upward or downward trend for residential lines, but its performance exhibits improvement in business lines.[86] Pacific's average performance is significantly better than the average of the reference group.[87]

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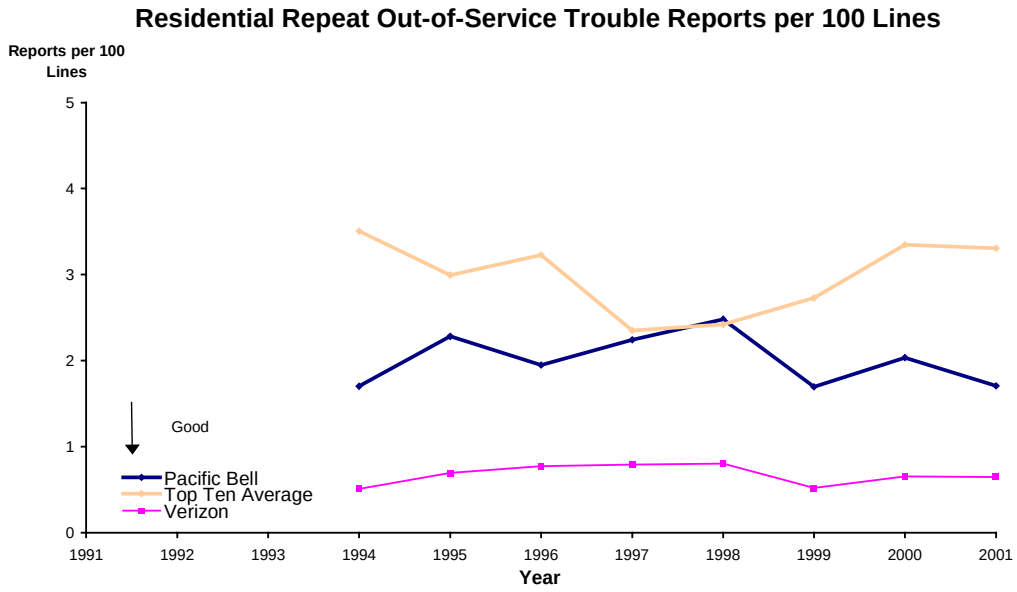
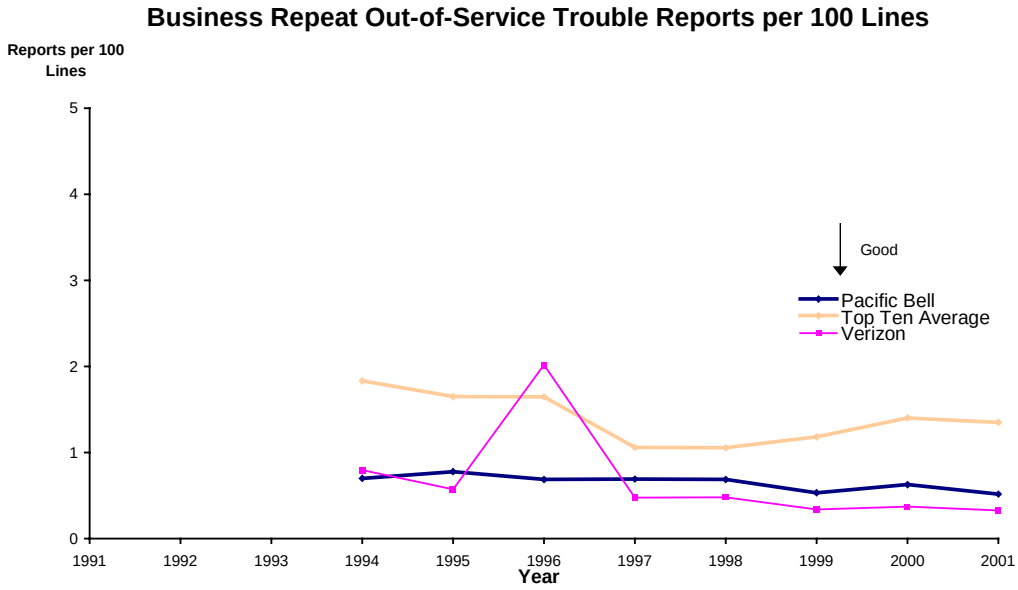
[84] For residential lines, the coefficient is –8.77 with t-statistic –25.88, significant at 1% level (R-square: 0.98, no. of observations: 16). For business lines, the coefficient is –3.71, with t-statistic –7.84, significant at 1% level (R-square: 0.81, no. of observations: 16).

[85] For residential lines, the coefficient is –5.49 with t-statistic –7.6, significant at 1% level (R-square: 0.81, no. of observations: 16). For business lines, the coefficient is –0.7, with t-statistic –2.04, not significant at 1% or 5% level (R-square: 0.23, no. of observations: 16).

[86] The coefficient is –0.02 with t-statistic -0.41, not significant at 1% or 5% level (R-square: 0.03, no. of observations: 8). For business lines, the coefficient is –0.03 with t-statistic -3.56, significant at 5% level (R-square: 0.68, no. of observations: 8).

[87] For residential lines, the coefficient is -0.97 with t-statistic –5.16, significant at 1% level (R-square: 0.66, no. of observations: 16). For business lines, the coefficient is –0.74, with t-statistic –6.92, significant at 1% level (R-square: 0.77, no. of observations: 16).





A visual inspection indicates that Verizon's performance is far better than the reference group for the residential customers and it is better than the reference group for the business customers except in 1996. Verizon's

performance does not exhibit any upward or downward trend in this area.[88] Verizon's average performance is statistically different than the reference group for both residential and the business lines.[89] Verizon's average performance was also better than Pacific for residential lines but not for the business lines.[90]

In all years except one, both Pacific and Verizon fared better than the reference group. Verizon performed better than Pacific in all years except 1994 and 1996 for business lines.

5. The Number of Subsequent Initial Trouble Reports and Subsequent Repeat Trouble Reports: Insufficient Observations

Pacific reported only four observations for each of these measures and stated that the trends were not statistically significant, except for the number of subsequent trouble reports per 100 lines, i.e., Pacific's performance has improved.[91]Verizon had also only four observations; therefore we did not check for the statistical significance of the trend.

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[88] The coefficient is zero with t-statistic 0.02 for residential lines, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 8). For business lines, the coefficient is -0.11 with t-statistic of -1.34, not significant at 1% or 5% level (R-square: 0.23, no. of observations: 8).

[89] For residential lines, the coefficient is –2.31 with t-statistic –14.38, significant at 1% level (R-square: 0.94, no. of observations: 16). For business lines, the coefficient is –0.72 with t-statistic –3.23, significant at 1% level (R-square: 0.43, no. of observations: 16).

[90] For residential lines, the coefficient is –1.34 with t-statistic –11.69, significant at 1% level (R-square: 0.91, no. of observations: 16). For business lines, the coefficient is 0.02 with t-statistic 0.10, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 16).

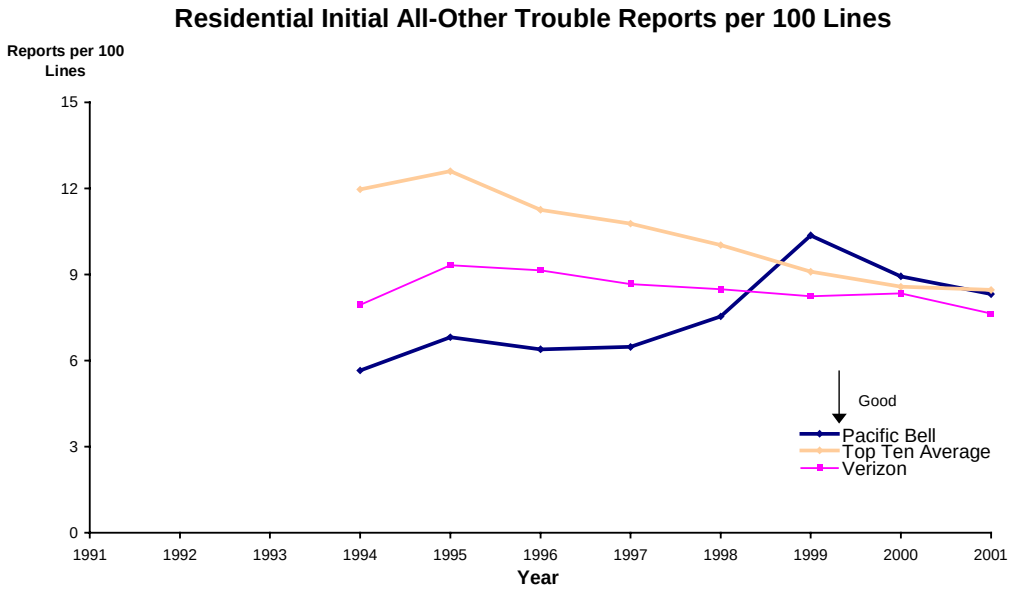
[91] See Footnote 4 in Trend in Pacific Bell ARMIS Performance table.

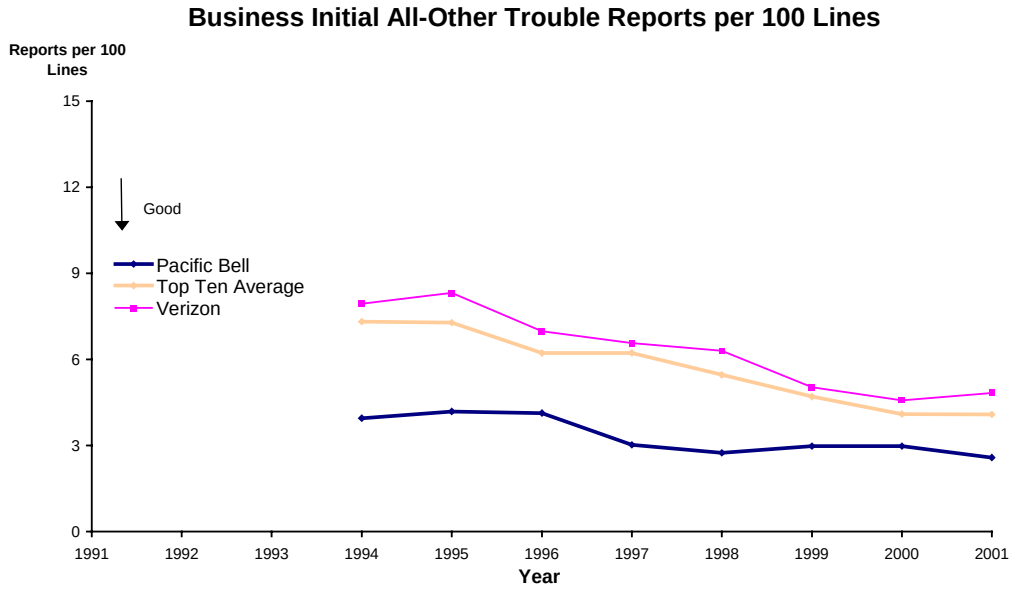
6. The Number of Initial All Other Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

These reports refer to the complaints concerning static, interrupted calls, and etc. For residential lines, a visual inspection of the graphs below shows that Pacific's performance is deteriorating while for business lines it is improving. Pacific has been performing better than the reference group for business lines, but for residential lines it performed worse than the reference group in 1999 and 2000. Our statistical analysis confirms these results and shows that Pacific's performance exhibits an upward trend in the number of initial all other trouble reports for residential lines and a downward trend for business lines.[92] Pacific's average performance, however, is significantly better than that of the reference group.[93]

[92] For residential lines, the coefficient is 0.502 with t-statistic 3.14, significant at 5% level (R-square: 0.62, no. of observations: 8). For business lines, the coefficient is -0.231 with t-statistic -4.16, significant at 1% level (R-square: 0.74, no. of observations: 8).

[93] For residential lines, the coefficient is –2.79 with t-statistic –3.56, significant at 1% level (R-square: 0.48, no. of observations: 16). For business lines, the coefficient is –2.35 with t-statistic –4.55, significant at 1% level (R-square: 0.60, no. of observations: 16).





Our visual inspection indicates that Verizon has performed better than the reference group for residential lines but its performance was worse than the reference group for business lines. Verizon's performance for the residential lines did not exhibit any upward or downward trend, but its performance for business

lines shows improvement.[94] Its performance is significantly better than the reference group for the residential lines, but we did not observe any significant difference for the business lines.[95] Verizon's average performance is not significantly different than Pacific for residential lines, but for business lines we observe a significant difference, i.e., Pacific's performance is better than Verizon's. [96]

In summary, for residential lines, Verizon performed better than the reference group and Pacific performed better than the reference group until 1999. For business lines, Pacific performed better than both the reference group and Verizon, while Verizon failed to match the performance of the reference group.

7. The Number of Repeat All Other Trouble Reports per 100 Lines (Residential and Business): Pacific Good; Verizon Good

We observe that Pacific's performance is deteriorating for residential lines and improving for business lines. The statistical analysis confirms that Pacific's performance exhibits an upward trend in the number of repeat all other trouble

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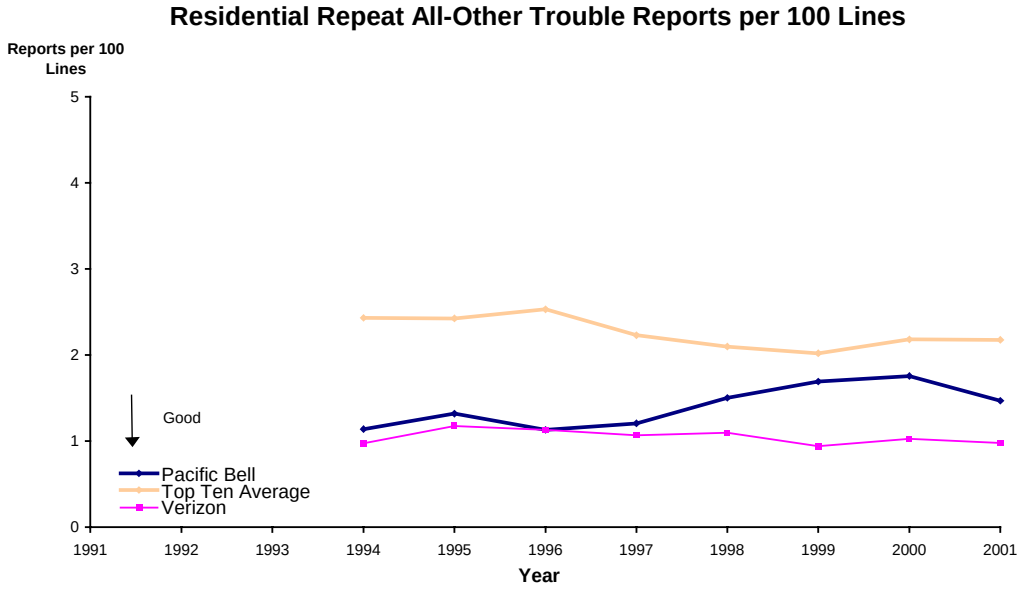
[94] For residential lines, the coefficient is –0.12 with t-statistic –1.45, not significant at 5% or 1% level (R-square: 0.26, no. of observations: 8). For business lines, the coefficient is –0.55 with t-statistic –8.37, significant at 1% level (R-square: 0.92, no. of observations: 8).

[95] The coefficient is –1.87 with t-statistic –3.18, significant at 1% level (R-square: 0.42, no. of observations: 16). The coefficient is 0.65 with t-statistic 0.95, not significant at 1% or 5% level (R-square: 0.06, no. of observations: 16).

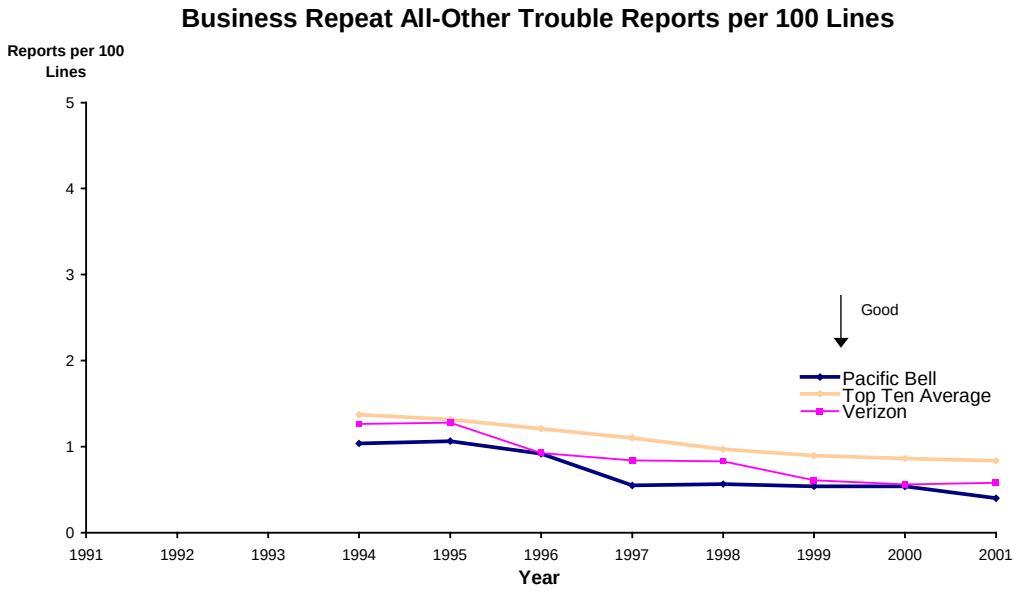
[96] The coefficient is 0.91 with t-statistic 1.55, not significant at 1% or 5% level (R-square: 0.15, no. of observations: 16). The coefficient is 2.99 with t-statistic 5.43, significant at 1% level (R-square: 0.68, no. of observations: 16).

reports for residential lines and a downward trend for business lines.[97] Yet, Pacific's average performance is significantly better than the average of the reference group for both residential and business measures.[98]



[97] For residential lines, the coefficient is 0.077 with t-statistic 3.05, significant at 5% level (R-square: 0.61, no. of observations: 8). For business lines, the coefficient is –0.098 with t-statistic 5.62, significant at 1% level (R-square: 0.84, no. of observations: 8).

[98] For residential lines, the coefficient is –0.86 with t-statistic –8.04, significant at 1% level (R-square: 0.82, no. of observations: 16). For business lines, the coefficient is –0.37 with t-statistic –3.11, significant at 1% level (R-square: 0.41, no. of observations: 16).



Verizon's performance did not exhibit any upward or downward trend for residential lines, but showed improvement for business lines.[99] Verizon's average performance is significantly better than the reference group for residential lines, but not for the business lines.[100] Verizon's average performance is better than Pacific for residential line but not for the business lines.[101]

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[99] For residential lines, the coefficient is –0.02 with t-statistic –1.22, not significant at 1% or 5% level (R-square: 0.20, no. of observations: 8). For business lines, the coefficient is –0.11 with t-statistic –7.47, significant at 1% level (R-square: 0.90, no. of observations: 8).

[100] For residential lines, the coefficient is –1.21 with t-statistic –17.26, significant at 1% level (R-square: 0.96, no. of observations: 16). For business lines, the coefficient is –0.21 with t-statistic –1.67, not significant at 1% or 5% level (R-square: 0.16, no. of observations: 16).

[101] For residential lines, the coefficient is –0.35 with t-statistic –3.88, significant at 1% level (R-square: 0.52, no. of observations: 16). For business lines, the coefficient is 0.16 with t-statistic 1.17, not significant at 1% or 5% level (R-square: 0.09, no. of observations: 16).

8. Initial out of service repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good

On the initial out of service repair interval, Pacific's record is far different than the one developed on other measures, and it has been an area of recent Commission investigations.

In D.01-12-021, the Commission noted that Pacific's "average initial repair interval for residential customers increased 45 percent between 1996 and 2000" (with its residential repeat trouble reports per 100 lines peaking in 1998[102]) and that in "every year since 1996, Pacific's mean time to restore service to residential customers [was] higher than the 1996 base year."[103] The Commission found "a sharp decline in service quality of nearly 50% over a mere four years coupled with Pacific's knowledge thereof and its lack of an attempt to remedy the deterioration."[104] We concluded that, "The Commission cannot find that SBC Pacific's service quality is excellent when the initial out-of-service repair intervals for residential customers has (sic) increased 45% since 1996."[105]

Pacific's results improved beginning in 2001,[106] with the exception of November 2002.[107] Furthermore, in D.01-12-021, the Commission instituted a

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[102] Exh. 2B:354, Attachment 16 (Hauser Direct Testimony).

[103] D.01-02-021, *mimeo.*, at 8 & n.4; *see also* TURN Opening/Service Quality at 19.

[104] D.01-02-021, *mimeo.*, at 11.

[105] *Id.* at 48.

[106] TURN, however, notes that ORA filed a complaint against Pacific in November 2000.

system of automatic penalties if Pacific's repair times failed to meet standards established by that decision. Pacific's record on this matter appears to illustrate the basic business school platitude that one gets what one measures. Indeed, we have so opined in other contexts: "Pacific Bell has exhibited a pattern of regulatory compliance during periods of special oversight, only to be followed by noncompliance in furtherance of Pacific Bell's revenue goals when the special oversight ends."[108] We conclude that our vigilance and enforcement can help ensure good service quality.

Our visual inspection indicates that there are considerable fluctuations in Pacific's residential initial out of service interval and no observable trend change in the business initial out-of-service repair interval. The statistical analysis does not indicate any significant upward or downward trend in Pacific's performance in initial out-of-service repair intervals for business and residential customer groups.[109] Pacific's average performance is significantly worse than the reference group for residential lines, but the difference is not significant for the business

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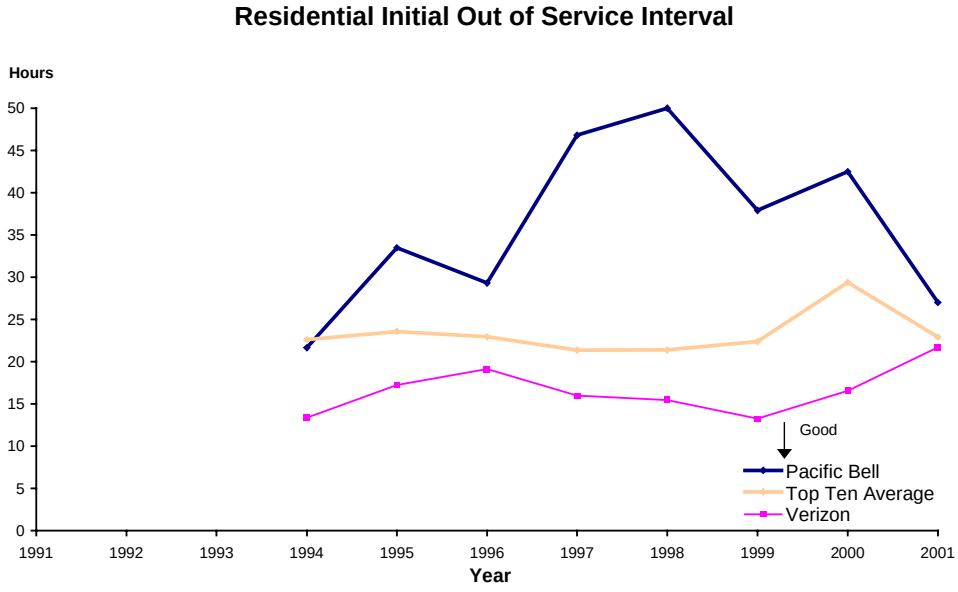
[107] For November 2002, Pacific's initial out of service repair interval for residential customers of 42.49 hours exceeds by more than 13 hours the standard of 29.3 hours established in D.01-12-021. Pacific attributes its missed objective to weather. *Report of November 2002 ARMIS Data for Repair Intervals in Compliance with D.01-12-021.*

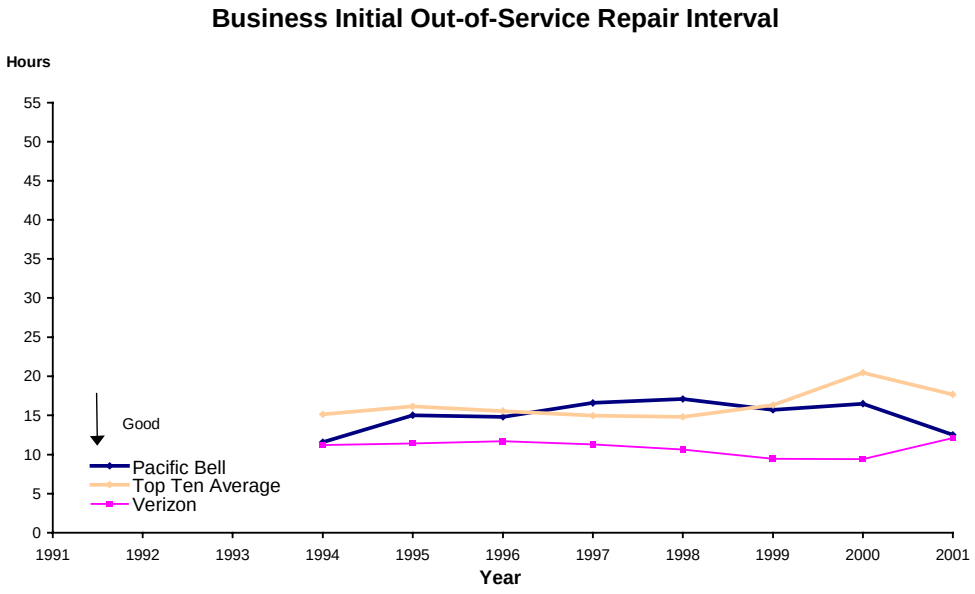
[108] D.01-09-058, 2001 Cal. PUC LEXIS 914, at *146, finding of fact 62.

[109] For residential lines, the coefficient is 1.328 with t-statistic 0.85, not significant at 1% or 5% level (R-square: 0.11, no. of observations: 8). For business lines, the coefficient is 0.204 with t-statistic 0.63, not significant at 1% or 5% level (R-square: 0.06, no. of observations: 8).

lines.[110] This leads us to the conclusion that Pacific's residential initial out of service interval lags behind national standards. Since, however, we see no statistically significant time trend and a visual pattern of service erosion followed by improvement, it is not reasonable to attribute any of the change in residential initial out of service interval to NRF regulation.



[110] For residential lines, the coefficient is 12.76 with t-statistic 3.50, significant at 1% level (R-square: 0.47, no. of observations: 16). For business lines, the coefficient is –1.41 with t-statistic –1.45, not significant at 1% or 5% level (R-square: 0.13, no. of observations: 16).



Our visual inspection indicates deterioration in Verizon's performance for residential lines, but its performance did not exhibit a statistically significant upward or downward trend.[111] Verizon's average performance was significantly better than the reference group for residential and the business lines.[112] Furthermore, Verizon's average performance is significantly better than Pacific.[113]

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[111] For residential lines, the coefficient is 0.44 with t-statistic 1.01, not significant at 1% or 5% level (R-square: 0.15, no. of observations: 8). For business lines, the coefficient is –0.13 with t-statistic –0.85, not significant at 1% or 5% level (R-square: 0.11, no. of observations: 8).

[112] For residential lines, the coefficient is –6.73 with t-statistic –4.99, significant at 1% level (R-square: 0.64, no. of observations: 16). For business lines, the coefficient is –5.48 with t-statistic –7.25, significant at 1% level (R-square: 0.79, no. of observations: 16).

[113] For residential lines, the coefficient is –19.49 with t-statistic –5.32, significant at 1% level (R-square: 0.67, no. of observations: 16). For business lines, the coefficient is –4.07 with t-statistic –5.17, significant at 1% level (R-square: 0.66, no. of observations: 16).

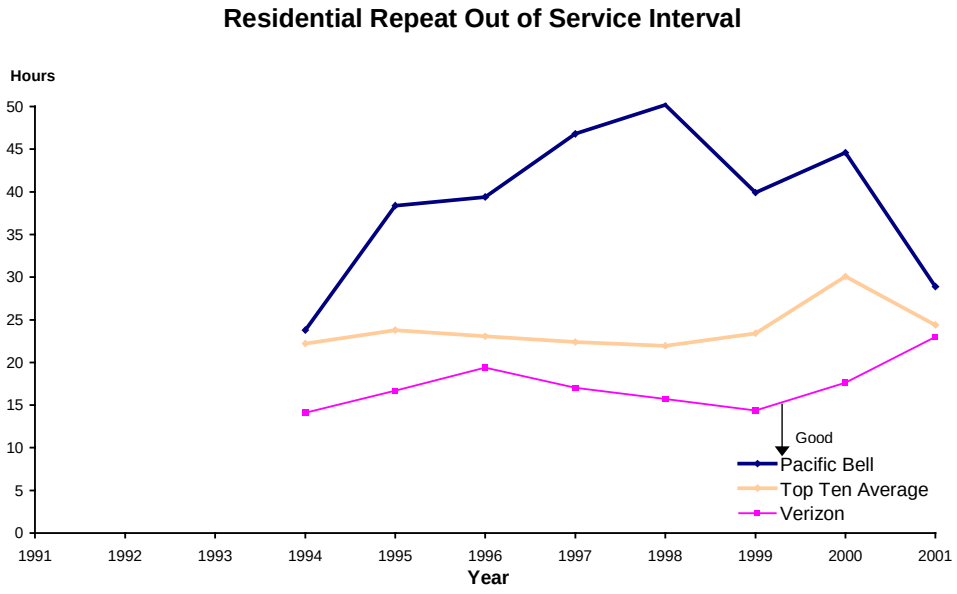
Since Verizon's performance is better than Pacific's and better than the reference group, we have no reason to attribute either changes or the level of Pacific's initial out of service interval to the introduction of NRF regulation.

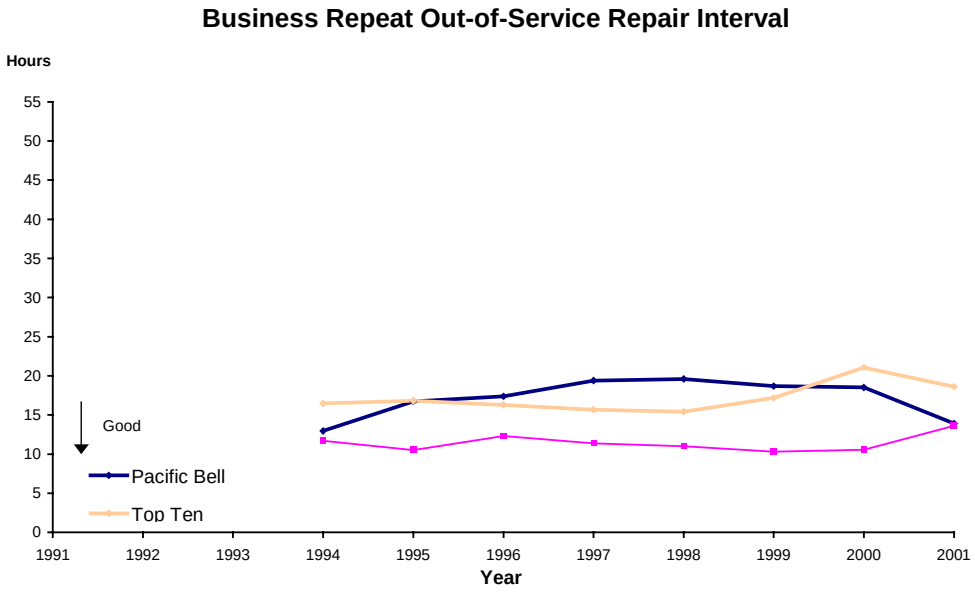
9. Repeat out-of-service repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good

Our visual inspection of the charts below indicates that Pacific's performance has been improving since 1998. Overall, we have not observed any significant upward or downward trend in Pacific's performance in repeat out-of-service repair intervals for business and residential customer groups.[114] Pacific's average performance is significantly worse than the reference group for residential lines but better for the business lines, however, the difference is not statistically significant for business lines.[115] The fact that both the residential initial out of service interval and residential repeat out of service interval statistically exceed that of the reference group indicates that Pacific has a problem with this particular operation.

[114] For residential lines, the coefficient is 0.855 with t-statistic 0.59, not significant at 1% or 5% level (R-square: 0.06, no. of observations: 8). For business lines, the coefficient is 0.234 with t-statistic 0.58, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 8).

[115] For residential lines, the coefficient is 15.08 with t-statistic 4.6, significant at 1% level (R-square: 0.60, No. of observations: 16). For business lines, the coefficient is –0.04 with t-statistic –0.04, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 16).


Residential Repeat Out of Service Interval
Hours
50
45
40
35
30
25
20
15
10
5
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
Year
Good
Pacific Bell
Top Ten Average
Verizon


Business Repeat Out-of-Service Repair Interval
Hours
55
50
45
40
35
30
25
20
15
10
5
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
Year
Good
Pacific Bell
Top Ten

Verizon also did not exhibit any statistically significant upward or downward trend for residential and business lines.[116] For both the residential and business lines, Verizon's performance was significantly better than the reference group.[117] Verizon's average performance was significantly better than Pacific for residential and business lines.[118]

10. Initial all other repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good

"Initial all other repair interval" is a grab-bag measure that captures repair intervals not covered in the prior categories.

On this measure, Pacific's performance fluctuates over the years. As a visual review of the graph below illustrates, Pacific has performed worse than the reference group except in 2001. Since 1997, we observe some improvement in Pacific's performance but fluctuation continues. Pacific's performance for business lines appears more stable and exhibits an improving trend. Statistical analysis shows that Pacific does not exhibit an upward or downward trend for

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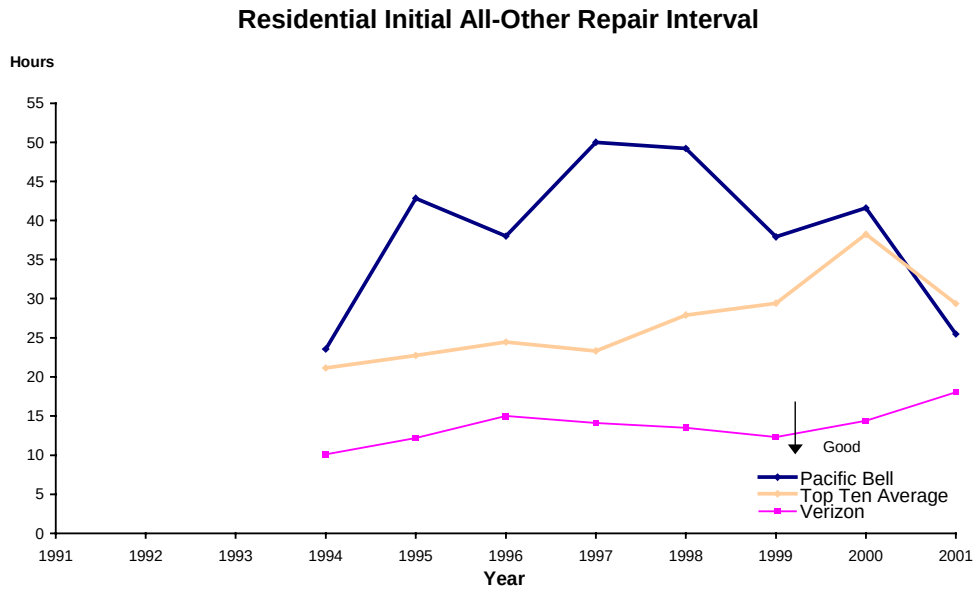
[116] For residential lines, the coefficient is 0.6 with t-statistic 1.45, not significant at 1% or 5% level (R-square: 0.26, no. of observations: 8). For business lines, the coefficient is 0.08 with t-statistic 0.47, not significant at 1% or 5% level (R-square: 0.03, no. of observations: 8).

[117] For residential lines, the coefficient is –6.68 with t-statistic –4.83, significant at 1% level (R-square: 0.62, no. of observations: 16). For business lines, the coefficient is –5.77 with t-statistic –7.61, significant at 1% level (R-square: 0.80, no. of observations: 16).

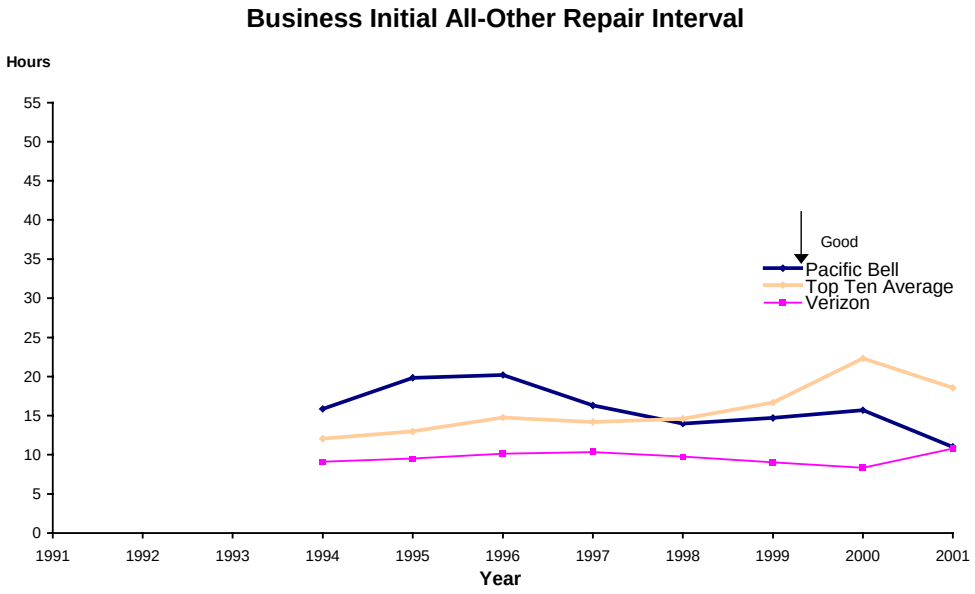
[118] The coefficient is –21.76 with t-statistic –6.59, significant at 1% level (R-square: 0.76, no. of observations: 16). The coefficient is –5.73 with t-statistic –5.93, significant at 1% level (R-square: 0.72, no. of observations: 16).

residential lines and some improvement is observed for business lines.[119] Pacific's average performance for residential initial all other repair interval was statistically worse than the reference group. However, for business service, Pacific's performance was not statistically different than the reference group.[120]



[119] For residential lines, the coefficient is 0.073 with t-statistic 0.05, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 8). For business lines, the coefficient is –0.875 with t-statistic 2.49, significant at 5% level (R-square: 0.51, no. of observations: 8).

[120] For residential lines, the coefficient is 11.50 with t-statistic 2.9, significant at 5% level (R-square: 0.38, no. of observations: 16). For business lines, the coefficient is 0.18 with t-statistic 0.11, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 16).



Over this period, Verizon achieved a much better record of performance. Visual inspection shows that Verizon outperformed the reference group for each measure. Verizon's performance, however, appears to have slightly deteriorated for the residential lines (although still better than that of the reference group), but did not exhibit any significant upward or downward trend for the business lines.[121] Statistical analysis shows that Verizon's performance is significantly

[121] For residential lines, the coefficient is 0.69 with t-statistic 2.55, significant at 5% level (R-square: 0.52, no. of observations: 8). For business lines, the coefficient is 0.02 with t-statistic 0.19, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 8).

better than the reference group.[122] Verizon's performance is also significantly better than Pacific's.[123]

11. Repeat all other repair interval (in hours): Pacific Poor for Residential, Average for Business; Verizon Good

Visual inspection of the graphs below indicates that Pacific's residential repeat all other repair interval appears to fluctuate over the NRF period. The statistical analysis indicates that Pacific's performance did not demonstrate any upward or downward trend for business and residential lines.[124] Pacific's average performance is significantly worse than the reference group for the residential lines but the difference is not significant for business lines.[125]

Pacific showed a high level of repeat problems shortly after making an initial repair. In 2000, at least 2.73% of residential repeat out-of-service repairs occurred within 24 hours of a previous repair; the number in 2001 was 2.38%. In

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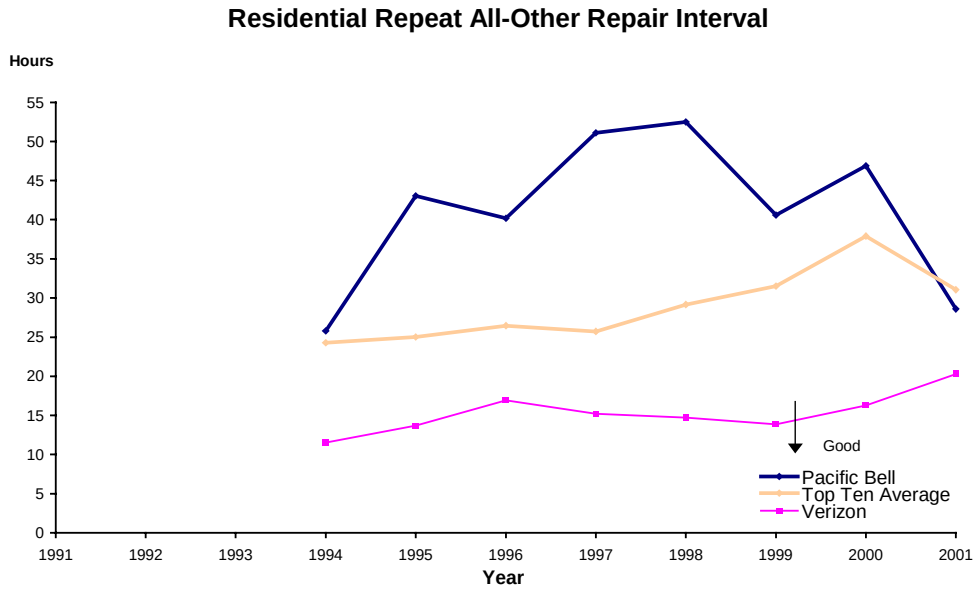
[122] For residential lines, the coefficient is –13.37 with t-statistic –6.34, significant at 1% level (R-square: 0.74, no. of observations: 16). For business lines, the coefficient is –6.15 with t-statistic –5.06, significant at 1% level (R-square: 0.65, no. of observations: 16).

[123] For residential lines, the coefficient is –24.87 with t-statistic –7.00, significant at 1% level (R-square: 0.78, no. of observations: 16). For business lines, the coefficient is –6.32 with t-statistic –5.75, significant at 1% level (R-square: 0.70, no. of observations: 16).

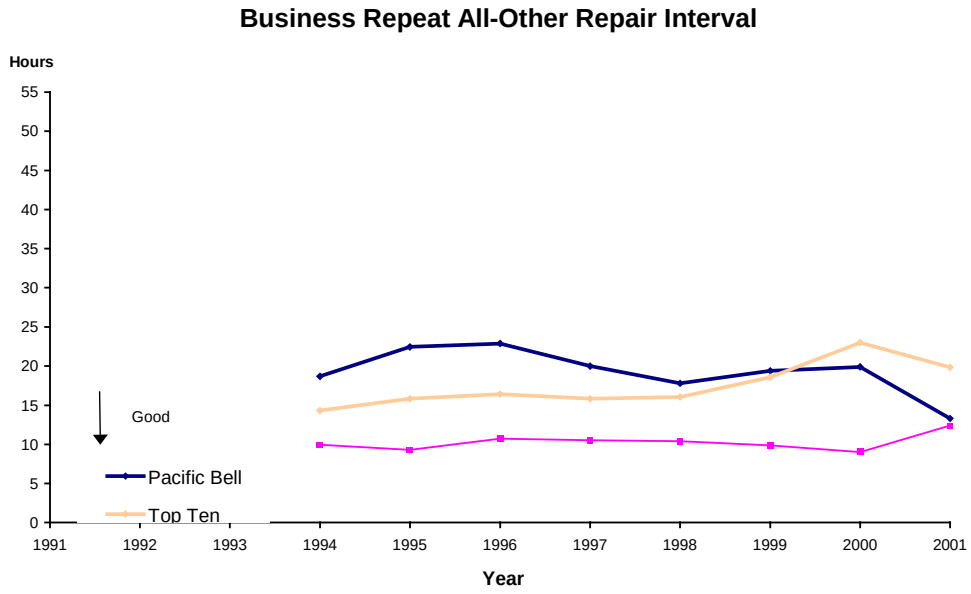
[124] For residential lines, the coefficient is 0.495 with t-statistic 0.31, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 8). For business lines, the coefficient is –0.752 with t-statistic 1.92, not significant at 1% or 5% level (R-square: 0.38, no. of observations: 8).

[125] For residential lines, the coefficient is 12.19 with t-statistic 3.22, significant at 1% level (R-square: 0.43, no. of observations: 16). For business lines, the coefficient is 1.82 with t-statistic 1.25, not significant at 1% or 5% level (R-square: 0.10, no. of observations: 16).

2001, the number of repeat problems within one week of a previous repair was 6.76%, 8.84% within two weeks, and 10.10% within three weeks.[126] It may be that these figures represented different problems for the same customers. Whatever the problem is, however, these high numbers certainly affected customers. The disruption caused by a repair is probably one of the more serious events that can occur in a carrier's relationship with its customers. A second repair within such a short time is an even more serious disruption.



[126] Ex. 2B:133 at 13 (Hieta Opening Testimony). According to its witness, ORA based these figures on an analysis of raw repair data Pacific furnished ORA. Pacific used the raw repair data to calculate ARMIS numbers for the years 2000 and 2001. *Id.* at 12.



Verizon performance exhibits an upward trend for the residential customers, but not for the business lines.[127] Verizon's average performance is significantly better than the reference group.[128] It is also significantly better than Pacific.[129]

[127] For residential lines, the coefficient is 0.77 with t-statistic 2.54, significant at 5% level (R-square: 0.52, no. of observations: 8). For business lines, the coefficient is 0.16 with t-statistic 0.97, not significant at 1% or 5% level (R-square: 0.14, no. of observations: 8).

[128] For residential lines, the coefficient is –13.59 with t-statistic –7.33, significant at 1% level (R-square: 0.79, no. of observations: 16). For business lines, the coefficient is –7.22 with t-statistic –6.78, significant at 1% level (R-square: 0.77, no. of observations: 16).

[129] For residential lines, the coefficient is –25.79 with t-statistic –7.26, significant at 1% level (R-square: 0.79, no. of observations: 16). For business lines, the coefficient is –9.04 with t-statistic –8.09, significant at 1% level (R-square: 0.82, no. of observations: 16).

12. Average Installation Interval: Pacific Average; Verizon Inconclusive

With regard to ARMIS data, Pacific claimed that, "both residential and business installation intervals in 2001 are below the level they were in 1994, the first year the data were reported."[130]

According to the data in the following graphs, Pacific's ARMIS performance on installation intervals (residential and business) was generally consistent over the 1994-2001 period. Pacific's data were slightly worse than Verizon's in 2000-01. As the graphs reveal, Pacific's installation intervals were generally better than Verizon's during the NRF period, with business installation intervals remaining stable in the 3-4 day range during the entire period 1994-2001. Residence intervals were not as steady, with small spikes in 1995 and 1997, but the overall numbers were generally lower than Verizon's except in 1994-95 and 2000-01. Concerning the reference group, it is difficult to draw any conclusions based on visual inspection. In some years, Pacific's performance exceeded that of the reference group, and in some years it did not.

The statistical analysis indicates that Pacific's performance does not exhibit an upward or downward trend.[131] The average performance was not significantly different than the reference group.[132]

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[130] Pacific Opening/ Service Quality at 18.

[131] For residential lines, the coefficient is –0.096 with t-statistic -1.40, not significant at 1% or 5% level (R-square: 0.25, no. of observations: 8). For business lines, the coefficient is –0.079 with t-statistic 1.32, not significant at 1% or 5% level (R-square: 0.22, no. of observations: 8).

With respect to Pacific's installation data, ORA asserted that, "[Pacific's] ARMIS installation orders also include orders for vertical services such as Caller-ID and call waiting, as well as jack installations, etc. . . [and the] . . . increase in total installation orders reflects both the increased demand for access lines, and demand for new vertical services marketed in California during the mid to late 1990s."[133] ORA alleged that in 1999, for example, Pacific had approximately 10 million more orders for vertical services and other local services only than it did for orders for basic service, and that vertical services orders contributed to the low reported average installation intervals because vertical services orders are completed within a day of placing the order resulting in installation intervals of 0 or 1 day. Pacific includes vertical services orders in its data, as the ARMIS measure clearly requires. Moreover, Pacific can install these services quickly and in automated fashion without dispatching a service technician. Thus, as the percentage of vertical services orders increases, the average installation interval will automatically fall. We have, however, no reason to believe that this trend for Pacific differs from the trends observed in our reference group, and Pacific's performance. While Pacific asserts that "in most cases, Pacific's recent performance has improved relative to most of the years in which data were reported,"[134] it did not show that the improvements in installation intervals were

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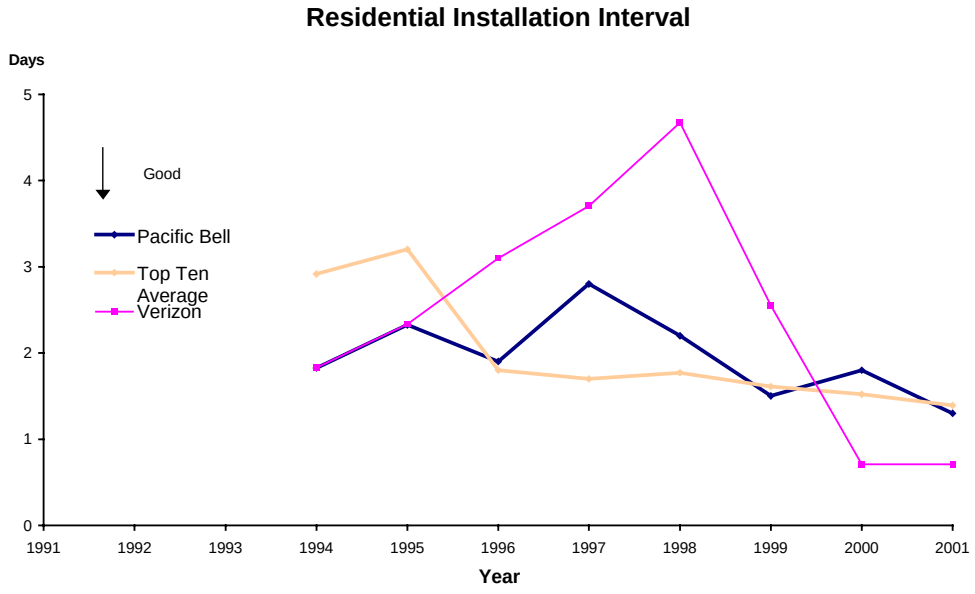
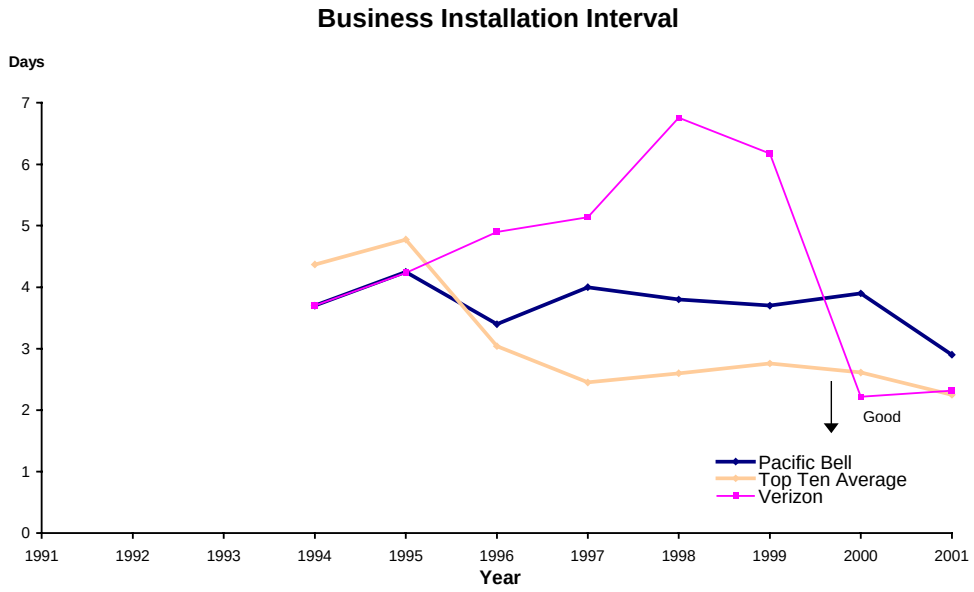
[132] For residential lines, the coefficient is –0.03 with t-statistic –0.11, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 16). For business lines, the coefficient is 0.60 with t-statistic 1.65, not significant at 1% or 5% level (R-square: 0.16, no. of observations: 16).

[133] Exh. 2B:132 at 8 (Young Opening Testimony).

the result of actual improvement in performance instead of the result of an increasing proportion of "short interval" vertical services orders in the mix of installation interval data reported under ARMIS. Although this development makes the interpretation of this measure difficult, there is no easy remedy. A vertical service is indeed a service, should be measured, and has been part of this measure for a long time.



134 Exh. 2B:355 at 9 (Hauser Reply Testimony).



Turning now to Verizon, we note that it too includes vertical services in this measure, as do the reference utilities. With regard to installation intervals, the graph shows that Verizon performed less well than did Pacific for both residence and business installations from 1995-99. In 2000-01, Verizon's performance improved: average installation intervals for residence customers decreased from nearly 5 days in 1998 to under 1 days in 2000 and 2001, while the same interval for business customers went from nearly 7 days in 1998 to just over two days in 2000 and 2001. Nonetheless, Verizon's installation intervals (business) were at 4 days or more from 1995 through 1999.

The graph of Verizon's installation intervals exhibits significant volatility. The statistical analysis shows that Verizon did not exhibit any statistically significant trend for residential and business lines.[135] Its average performance is

[135] For residential lines, the coefficient is –0.2 with t-statistic –0.92, not significant at 1% or 5% level (R-square: 0.12, no. of observations: 8). For business lines, the coefficient is

Footnote continued on next page

not significantly different than the reference group.[136] Its average performance is not significantly different than Pacific, either.[137] Thus, the great changes in Verizon's installation intervals over this period make it impossible to reach a conclusion on exactly what is happening with Verizon concerning installation intervals.

13. Switch Downtime: Pacific Good; Verizon Average

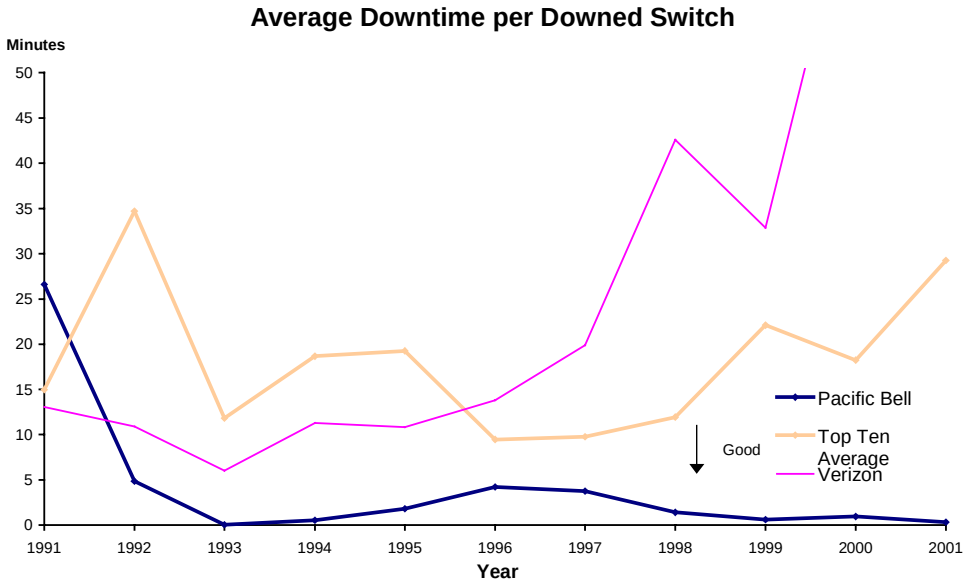
Switch downtime occurs when call processing capability for an end office is lost. This measure reports the switch downtime in minutes per switch experiencing downtime. As is shown in the chart below, Pacific has significantly improved its performance in the first few years of the NRF period. The statistical analysis shows that Pacific does not exhibit any statistically significant trend in downtime per switch down and performs better than the average of the reference group.[138]

–0.17 with t-statistic –0.64, not significant at 1% or 5% level (R-square: 0.06, no. of observations: 8).

[136] For residential lines, the coefficient is 0.46 with t-statistic 0.85, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 16). For business lines, the coefficient is 1.32 with t-statistic 1.97, not significant at 1% or 5% level (R-square: 0.22, no. of observations: 16).

[137] For residential lines, the coefficient is 0.5 with t-statistic 0.96, not significant at 1% or 5% level (R-square: 0.06, no. of observations: 16). For business lines, the coefficient is 0.72 with t-statistic 1.2, not significant at 1% or 5% level (R-square: 0.09, no. of observations: 16).

[138] The coefficient is –1.287 with t-statistic -2.02, not significant at 1% or 5% level (R-square: 0.31, no. of observations: 11). In comparison with the reference group, the coefficient is –14.10 with t-statistic –4.21, significant at 1% level (R-square: 0.46, no. of observations: 22).



Verizon's downtime per switch exhibited an upward trend.[139] Its average performance is significantly worse than Pacific.[140] Verizon's average performance is also worse than the reference group, but the difference is not statistically significant.[141]

14. Switches Down per Switch

Pacific had only six observations for this measure. The statistical analysis shows that Pacific does not exhibit a statistically significant trend in the number

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[139] The coefficient is 7.95 with t-statistic 4.28, significant at 1% level (R-square: 0.67, no. of observations: 11).

[140] The coefficient is 27.03 with t-statistic 2.71, significant at 5% level (R-square: 0.27, no. of observations: 22).

[141] The coefficient is 12.9 with t-statistic 1.29, not significant at 1% or 5% level (R-square: 0.08, no. of observations: 22).

of switches down per switch while Verizon exhibits a slight improvement in this area.[142]

15. Number of Switch "Occurrences"

Pacific reported three measures under this category: the number of occurrences over two minutes per switch (the number of incidents of switch downtime over two minutes in duration), the number of occurrences under two minutes per switch (the number of incidents of switch downtime under two minutes in duration) and the percent of occurrences unscheduled (the percent of incidents of switch downtime under two minutes in duration that are not scheduled for routine maintenance or network upgrades). Pacific's performance does not show a statistically significant upward or downward trend in the number of occurrences over two minutes per switch and the percent unscheduled. [143] Pacific exhibited a downward trend for the number of occurrences under two minutes per switch.[144]

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[142] For Pacific, the coefficient is zero with t-statistic zero, not significant at 1% or 5 % level (R-square: 0.00, no. of observations: 6). For Verizon, the coefficient is –0.01 with t-statistic –4.02, significant at 1% level (R-square: 0.64, no. of observations: 11).

[143] For the number of occurrences over two minutes per switch, the coefficient is 0.019 with t-statistic 0.80, not significant at 1% or 5 % level (R-square: 0.14, no. of observations:6). For the percent unscheduled, the coefficient is –0.015, with t statistic -0.57, not significant at 1% or 5% level (R-square: 0.01, no. of observations: 6).

[144] The coefficient is –0.016 with t-statistic -2.95, significant at 5% level (R-square: 0.69, no. of observations: 6).

Verizon had more data points for these measures. Verizon has exhibited a downward trend for the number of occurrences under two minutes per switch and an upward trend for the percent unscheduled.[145]

16. Installation Commitments Met: Pacific Average for Residential, Good for Business; Verizon Average

Pacific's residential installation "commitments met" data were consistently good from 1991-2001, with the exception of a dip in "commitments met" in late 1997. For business customers, the percentage of commitments met declined notably from 1991 through 1997, improving again in 2001. Pacific has demonstrated a slight downward trend for its residential lines but it is not statistically significant while it has shown a slight deterioration for business lines.[146] Its performance is not statistically different than the reference group for the residential lines but it is better for the business lines.[147]

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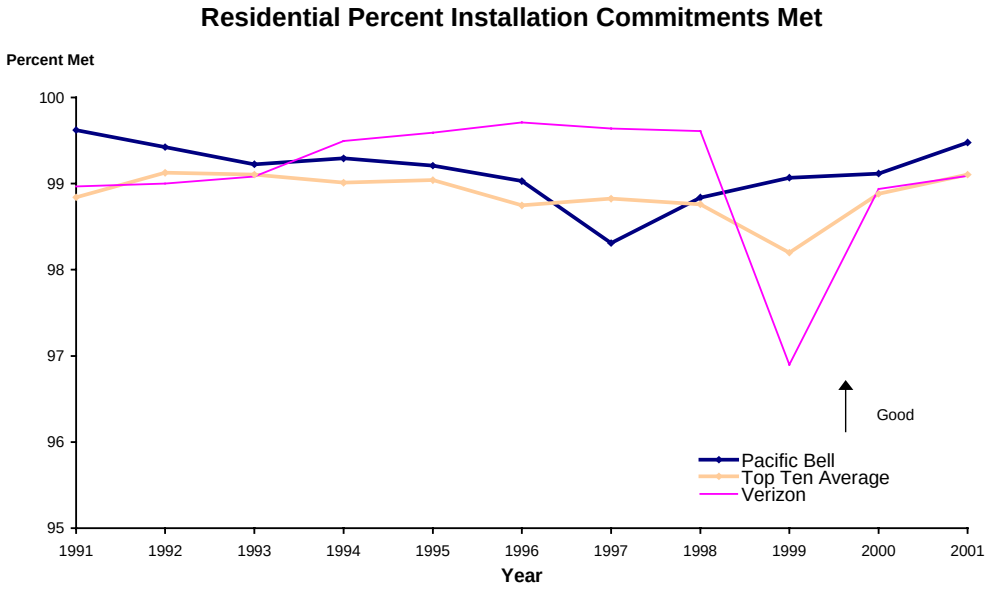
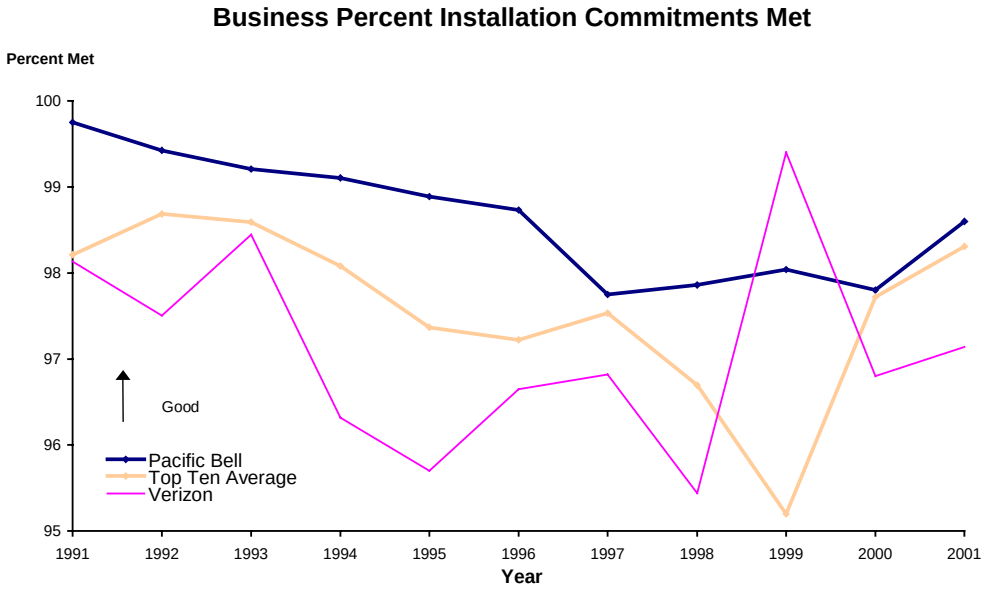
[145] For the number of occurrences under two minutes, the coefficient is –0.04, with t-statistic –4.63, significant at 1% level (R-square: 0.70, no. of observations: 11). For the percent unscheduled, the coefficient is 0.05 with t-statistic 3.65, significant at 1% level (R-square: 0.60, no. of observations: 11).

[146] For residential lines, the coefficient is –0.038 with t-statistic -1.15, not significant at 1% or 5% level (R-square: 0.13, no. of observations: 11). For business lines, the coefficient is –0.176 with t-statistic -4.51, significant at 1% level (R-square: 0.69, no. of observations: 11).

[147] For residential lines, the coefficient is 0.27 with t-statistic 2.02, not significant at 1% or 5% level (R-square: 0.17, no. of observations: 22). For business lines, the coefficient is 1.05 with t-statistic 2.84, significant at 5% level (R-square: 0.29, no. of observations: 22).





Other than in 1999, when Verizon's percentage of residential commitments met dipped to below 97%, Verizon performed well during the 1991-2001 period on its residential commitments. Its performance did not vary much from Pacific's, and neither party shows major problems in the "commitments met" area during the 1991-2001 period.

Verizon's results were less stable in the area of business commitments met, as the foregoing graph reveals. Verizon's results showed a general declining trend between 1991 and 1998 and were most problematic in 1995 and 1998, dipping to 96% and 95.5% of commitments met for business customers in those years. For all years except 1999, the data show that Verizon's performance was worse than Pacific's.

The statistical analysis indicates that Verizon did not exhibit any statistically significant upward or downward trend for the residential and business lines.[148] Its performance is not significantly different than the reference group.[149]Verizon's performance is also not statistically different than Pacific's for residential lines but it is worse than Pacific for business lines.[150]

[148] For residential lines, the coefficient is –0.05 with t-statistic –0.69, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 11). For business lines, the coefficient is –0.05 with t-statistic –0.43, not significant at 1% or 5% level (R-square: 0.02, no. of observations: 11).

[149] For residential lines, the coefficient is 0.22 with t-statistic 0.86, not significant at 1% or 5% level (R-square: 0.04, no. of observations: 22). For business lines, the coefficient is –0.48 with t-statistic –1.02, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 22).

[150] For residential lines, the coefficient is –0.05 with t-statistic –0.21, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 22). For business lines, the coefficient is –1.53 with t-statistic –3.68, significant at 1% level (R-square: 0.40, no. of observations: 22).

D. Summary of Empirical Assessment of Pacific's and Verizon's Performance on ARMIS 43-05 Measures

Concerning the ARMIS 43-05 measures, since there are no FCC service standards, we have compared the performance of Pacific and Verizon against a reference group of large utilities.

Compared to the reference group, Pacific's record on the six measures of trouble reports has been better than that of the reference group. Pacific also performed better than the reference group in switch downtime and installation commitments met (business). We have not observed a statistically significant difference between Pacific and the reference group on initial out-of-service repair interval (business), initial all other repair interval (business), repeat all other repair interval (business), average installation interval (residential and business), installation commitments met (residential). Pacific's performance lagged behind the reference group only in the initial out of service repair interval (residential), repeat out-of-service repair interval (residential), initial all other repair interval (residential), and repeat all other repair interval (residential).

For Pacific, we statistically examined trends in performance during the NRF years. In particular, we find that during the NRF period Pacific's performance showed statistically significant improvement on initial trouble reports per 100 lines (business), repeat trouble reports per 100 lines (business), repeat out-of-service reports (business), initial all other trouble reports (business), repeat all other trouble reports (business), initial all other repair interval (business), and the number of occurrences under two minutes. Pacific has shown no statistically significant change in initial trouble reports (residential), repeat trouble reports (residential), initial out-of-service reports (residential and business), repeat out-of-service reports (residential), initial out-

of-service repair interval (residential and business), repeat out-of-service repair interval (residential and business), initial all other repair interval (residential), repeat all other repair interval (residential and business), average installation interval (residential and business), switch downtime, installation commitments met (residential), the number of switches down, the number of occurrences over two minutes, and the percent of unscheduled occurrences. Pacific's performance has shown a worsening trend only in initial all other trouble reports (residential), repeat all other trouble reports (residential) and installation commitments met (business).

We now turn to Verizon. Compared with the reference group, Verizon's record has been better in almost all measures. However, for initial all other trouble reports (business), repeat all other trouble reports (business), average installation intervals (residential and business), switch downtime, and installation commitments met (residential and business), we have not observed any statistically significant difference between Verizon's performance and that of the reference group. Verizon's performance did not lag behind the reference group in any of the measures.

In addition, we also conducted a statistical examination of how Verizon's service quality changed over time. We find that during the NRF period, Verizon's performance showed statistically significant improvement on the number of initial trouble reports (residential and business), the number of repeat trouble reports (residential and business), the number of initial out-of-service trouble reports (business), the number of initial all other trouble reports (business), the number of repeat all other trouble reports (business), the number of switches down, and the number of occurrences under two minutes. Verizon's performance has not shown any statistically significant change in the initial out

of service trouble reports (residential), repeat out-of-service trouble reports (residential and business), initial all other trouble reports (residential), repeat all other trouble reports (residential), initial out-of-service repair interval (residential and business), repeat out-of-service repair interval (residential and business), initial all other repair interval (business), repeat all other repair interval (business), average installation interval (residential and business), and installation commitments met (residential and business). Verizon's performance has shown a worsening trend only in initial all other repair interval (residential), repeat all other repair interval (residential), switch downtime, and the percent of unscheduled occurrences.

Thus, we find that there is no evidence from Pacific's and Verizon's performance that supports the hypothesis that NRF regulation decreases customer service quality.

E. MCOT Data

Both Pacific and Verizon have undergone changes as a result of large mergers they have entered into with other carriers. As a consequence of these mergers, the FCC has required specific reporting for time-limited periods so that it may monitor service quality impacts that may result from the mergers. (Throughout this proceeding, the parties have referred to these reports generically as "MCOT" requirements, and we use that nomenclature here.)[151]

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[151] The FCC's Merger Compliance Oversight Team maintains a website reflecting the reported results of Pacific (http://www.fcc.gov/wcb/mcot/SBC_AIT/) and Verizon (http://www.fcc.gov/wcb/mcot/BA_GTE/). *See also* Exhibit (Exh.) 2B:507 at 22-23 (Schilberg Direct Testimony describing MCOT reporting). Exhibit 2B:507 refers to Exhibit 507 from Phase 2B of this proceeding.

1. MCOT Data – Pacific Shows No Service Diminishment Following Amertech Merger

As a condition of SBC's merger with Ameritech, the FCC required additional quarterly, state-by-state service quality reporting for the period from June 1999 to November 2002.[152] Categories of reporting for retail services include installation and maintenance, switch outages, transmission facility outages, service quality-related complaints, and answer time performance. The FCC based the reporting categories on the NARUC[153] Service Quality White Paper, authored in 1998.[154]

In late 2000, the FCC notified SBC that, "[t]he quarterly service quality reports filed by SBC Communications, Inc. ('SBC') pursuant to the SBC/Ameritech Merger Order indicate that the quality of service provided by SBC's incumbent local exchange carriers ('LECs') has been deteriorating in several states since approval of the merger in October 1999." The FCC representative went on to state that, "I am concerned that SBC's performance data indicates that consumers in SBC's region are experiencing increasing installation delays, longer repair times, and greater difficulties contacting SBC's incumbent LECs about service quality and other issues. I note also that consumer complaints regarding service quality have increased in recent months

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[152] FCC 99-279, October 6, 1999, Appendix C, Condition XXIV, ¶ 62, available at http://www.fcc.gov/wcb/mcot/SBC_AIT/compliance_program/.

[153] National Association of Regulatory Utility Commissioners.

[154] The NARUC Service Quality White Paper is available at http://www.fcc.gov/Bureaus/Common_Carrier/Public_Notices/1999/da992441.txt.

in spite of SBC's explicit commitment when the merger was pending to devote greater resources to service quality after the merger closed."[155]

This comment offers an over-all assessment of SBC. We now turn to see how Pacific's service quality fared following the merger.

The FCC produced charts for certain measures for the period July 1999 to June 2001. According to these charts Pacific's performance shows negative spikes in California in the following areas: 1) answer time performance (business customers),[156] 2) trouble report rate per 100 lines (especially business customers),[157] 3) percentage of installation orders completed within 5 working days (especially residential customers),[158] and 4) percentage of installation orders delayed over 30 days (business customers).[159]

These spikes, however, proved only transitory when subjected to statistical scrutiny. The data for these measures are also posted on the website for the period January 2000 through September 2001.[160] In order to check whether there

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[155] Letter from Dorothy Atwood, Chief, FCC Common Carrier Bureau, to Mr. James W. Calloway, Group President – SBC Services, dated October 6, 2000, available at http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/. We may take official notice of this letter pursuant to Commission Rule 73.

[156] http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/OP1.pdf.

[157] http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/RE3.pdf.

[158] http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/IN1.pdf.

[159] http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/IN2.pdf.

[160] http://www.fcc.gov/wcb/mcot/SBC_AIT/service_quality/data.xls

is a statistically significant upward or downward trend, we estimated a regression of Pacific's performance on a linear time trend. Our statistical analysis showed that Pacific's performance exhibits an improving trend in average answer time for residential and business customers.[161] Pacific's performance in average trouble duration is also improving for residential and business lines.[162] Pacific is also improving its performance in trouble report rate per 100 lines.[163]Pacific's performance does not show any change in installation completed within five business days for residential lines. [164] For business lines, our statistical analysis shows a slight improvement. [165]

In summary, although the FCC has identified a trend of service deterioration in SBC affiliates following the Ameritech merger, Pacific's operations appear largely unaffected by the Ameritech merger. The few spikes

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[161] For residential customers, the coefficient is –1.36 with t-statistic –3.12, significant at 1% level (R-square: 0.34, no. of observations: 21). For business customers, the coefficient is –0.46 with t-statistic –9.62, significant at 1% level (R-square: 0.83, no. of observations: 21).

[162] For residential lines, the coefficient is –0.46 with t-statistic –9.62, significant at 1% level (R-square: 0.83, no. of observations: 21). For business customers, the coefficient is –1.50 with t-statistic –14.11, significant at 1% level (R-square: 0.91, no. of observations: 21).

[163] For residential lines, the coefficient is –0.04 with t-statistic –3.64, significant at 1% level (R-square: 0.41, no. of observations: 21). For business lines, the coefficient is –0.02 with t-statistic –5.96, significant at 1% level (R-square: 0.65, no. of observations: 21).

[164] The coefficient is zero with t-statistic 0.18, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 12).

[165] The coefficient is 0.003 with t-statistic 5.48, significant at 1% level (R-square: 0.75, no. of observations: 12).

in poor service proved transitory. Moreover, since the period for which we have MCOT data is so short and covers only part of the period subject to our investigation, it does not permit us to draw any conclusion concerning how NRF regulation affected Pacific's performance.

Recognizing the value of the MCOT reporting, during the hearings, Administrative Law Judge (ALJ) Sarah R. Thomas granted TURN's motion seeking an order requiring Pacific to continue to report certain data to this Commission for measures required under the FCC's MCOT requirements that expired in November 2002. (Verizon agreed with TURN voluntarily to continue the reporting until after a final decision in this proceeding.)

Judge Thomas ruled that Pacific should continue to report such information.[166] She found that Pacific already has a mechanism in place to capture this data easily, that it has no plans to transfer or dismiss the employees who currently prepare the report, and that it would be wasteful to lose the important data the report captures at a time when the Commission is closely examining Pacific's service quality. We hereby ratify that ruling of the judge pursuant to Pub. Util. Code § 310. We require Pacific to continue reporting these results until further notice of the Commission.

2. MCOT Data – Verizon California (GTE) Shows No Diminishment of Service Quality Following Merger

The FCC also imposed a 36-month reporting requirement as a condition of the 2000 GTE merger with Bell Atlantic that created Verizon.[167] As TURN

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[166] 20 RT 2529-31 (ALJ Thomas' ruling).

[167] FCC 00-221, Condition 51.

pointed out in a motion filed during Phase 2B, the FCC requirement provides the Commission with information not otherwise available in GO 133-B. For example, while GO 133-B measures the handling of business office calls, it does not track billing calls even though such calls account for half of the calls to the business office.

According to the FCC data,[168] Verizon showed negative spikes in California on several service quality measures at the following times during the period July 2000-June 2001, as compared to the rest of that period: 1) percentage of dissatisfied customers (with business customers reporting 50% dissatisfaction in November 2000 and residential customers reporting 20% dissatisfaction in March 2001),[169] 2) answer times (with business answer times in the 50-60 second range in September 2000 and in the 40-50 second range in January 2001 – as compared to a GO 133-B standard of 20 seconds); and residential times exceeding 20 seconds in November 2000 [30 seconds] and January 2001 [40 seconds],[170] 3) repair intervals for both residential and business customers spiking in the period January-March 2001,[171] 4) repeat trouble reports spiking for both types of customers in March 2001,[172] and 5) trouble reports per hundred lines spiking in

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168 We take official notice of this data pursuant to Rule 73.

169 http://www.fcc.gov/wcb/mcot/BA_GTE/service_quality/GTE_States/CU2.pdf.

170 http://www.fcc.gov/wcb/mcot/BA_GTE/service_quality/GTE_States/OP1.pdf.

171 http://www.fcc.gov/wcb/mcot/BA_GTE/service_quality/GTE_States/RE1.pdf.

172 http://www.fcc.gov/wcb/mcot/BA_GTE/service_quality/GTE_States/RE2.pdf.

the January-March 2001 time period for residential customers.[173] However, we have not observed a statistically significant upward or downward trend in Verizon's performance for the following measures: complaints per one million lines (residential and business),[174] the percentage of dissatisfied customers (residential and business),[175] answer times (business),[176] average repair interval (residential and business),[177] the percentage of repeat trouble reports (residential and business),[178] trouble report rates (residential and business),[179] the percentage

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[173] http://www.fcc.gov/wcb/mcot/BA_GTE/service_quality/GTE_States/RE3.pdf.

[174] For the residential lines, the coefficient is –0.30 with t-statistic –2.10, not significant at 1% or 5% level (R-square: 0.31, no. of observations: 12). For business lines, the coefficient is –0.21 with t-statistic –0.76, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 12).

[175] For the residential lines, the coefficient is 0.74 with t-statistic 1.24, not significant at 1% or 5% level (R-square: 0.13, no. of observations: 12). For business lines, the coefficient is –0.33 with t-statistic –0.35, not significant at 1% or 5% level (R-square: 0.01, no. of observations: 12).

[176] For business lines, the coefficient is 0.25 with t-statistic 0.35, not significant at 1% or 5% level (R-square: 0.01, no. of observations: 12).

[177] For the residential lines, the coefficient is 0.83 with t-statistic 1.24, not significant at 1% or 5% level (R-square: 0.13, no. of observations: 12). For business lines, the coefficient is 0.24 with t-statistic 1.73, not significant at 1% or 5% level (R-square: 0.23, no. of observations: 12).

[178] For the residential lines, the coefficient is 0.09 with t-statistic 0.71, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 12). For business lines, the coefficient is zero with t-statistic –0.06, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 12).

[179] For the residential lines, the coefficient is –0.005 with t-statistic –0.28, not significant at 1% or 5% level (R-square: 0.00, no. of observations: 12). For business lines, the

Footnote continued on next page

of orders completed within five working days (residential and business),[180] the percentage of orders delayed over 30 days (business).[181] Verizon's performance shows a slight improvement in the percentage of orders delayed over 30 days for the residential lines[182] and in the answer time performance for residential lines.[183] As a result, we conclude that despite a visual spike illustrating a decrease in the quality of service in the January to March 2001 time period, there is no statistically significant indicator of an ongoing decrease in quality.

While Verizon voluntarily agreed to continue reporting this MCOT data, we will expand on that agreement to make it parallel with Pacific's, and require Verizon to continue to make its MCOT reports to this Commission until further notice.

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coefficient is –0.004 with t-statistic –0.74, not significant at 1% or 5% level (R-square: 0.05, no. of observations: 12).

[180] For the residential lines, the coefficient is 0.10 with t-statistic 0.57, not significant at 1% or 5% level (R-square: 0.03, no. of observations: 12). For business lines, the coefficient is 0.14 with t-statistic 0.63, not significant at 1% or 5% level (R-square: 0.36, no. of observations: 12).

[181] For the business lines, the coefficient is approximately zero with t-statistic 1.19, not significant at 1% or 5% level (R-square: 0.36, no. of observations: 12).

[182] For the residential lines, the coefficient is –0.001 with t-statistic –2.39, significant at 5% level (R-square: 0.36, no. of observations: 12).

[183] For the residential lines, the coefficient is –1.71 with t-statistic –2.99, significant 5% level (R-square: 0.47, no. of observations: 12).

V. Survey Data and Customer Satisfaction

A. Customer Satisfaction and Service Quality Surveys – Pacific

1. ORA Survey

At the Commission's direction, ORA's witness Dr. Marek Kanter readministered a survey of Pacific's customers based on one ORA conducted in 1995. Based on the responses given to 36 survey questions concerning service quality, ORA concluded that "Pacific's quality of service has declined in the period between 1995 and 2001."[184]

ORA's comparison showed problems in residential and small business customers' perceptions of Pacific's service quality. Of 36 questions in the survey germane to service quality, the responses to 23 questions showed a difference between customer perceptions in 1995 and 2001. In each of the following 19 questions, more customers chose a less favorable response in 2001 than they had in 1995:

- Q8. How often have you noticed static or noise on the line?
- Q9. How often have you noticed voices fading in or out?
- Q10. How often have you heard voices echoing?
- Q15. How often was the line dead upon picking up the phone?

[184] ORA Opening Brief at 18.

(Questions 21-27 relate to "long distance calls carried by your local telephone company.")[185]

- Q21. How often have you noticed static or noise in the last 30 days?
- Q22. How often have you noticed voices fading in and out in the last 30 days?
- Q23. How often have you heard voices echoing in the last 30 days?
- Q24. How often have you not heard the other party in the last 30 days?
- Q27. How often have you been disconnected while talking in the last 30 days?

(Questions 31-32 relate to contacts with the local company's business office.)

- Q31. Were the office personnel assisting you courteous?
- Q32. Were you satisfied with the help you received from the office personnel?
- Q34. Regarding contacts with the local company's telephone operators, were you satisfied with the help you received from the operators?

(Questions 37-38 relate to telephone installation and repair.)

- Q37. Was the work completed on time?

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[185] Pacific correctly pointed out, in our view, that this question might have confused customers, and more so in 2001 than in 1995 with the differentiation in local toll and long distance calling and the proliferation of long distance providers.

- Q38. Were you satisfied with the work?
- Q40. Was your most recent local telephone bill correct?
- Q42. How would you rate your local phone service for the last 30 days?
- Q43. Compared with the last 6 months, rate your service in the last 30 days.
- Q44. What is your overall satisfaction with your local telephone service?
- Q46. Rate the service of [the] present provider, compared with previous providers you have had in the last three years.

For each of the following 4 questions, more customers chose a more favorable response in 2001 than they had in 1995:

- Q13. How often have you heard other voices on the line?
- Q16. How often have you reached a number not dialed?
- Q26. How often have you heard other voices on the line in the last 30 days?
- Q41. If your most recent bill was incorrect, has the problem been resolved?

Pacific's witness Dr. Hauser states that ORA's survey is "biased, noisy, and non-representative."[186] Dr. Hauser's main objection is that the survey sample is not representative of all of Pacific's customers, due to nonresponse bias. He claims ORA lacked procedures to minimize nonresponse bias, and ORA's sample

[186] Exh. 2B:354 at 40:11-12 (Hauser Direct).

is highly likely to be biased towards customers who are more dissatisfied than the typical Pacific customer.[187] Hauser also pointed out flaws regarding the ORA's statistical analysis: use of inappropriate and biased hypothesis tests, incorrect calculations of the joint significance tests, inappropriate comparisons over time and typographical mistakes.[188] According to his analysis, if corrected, "37% of the statistically significant declines in service between 2001 and 1995 that ORA found are incorrectly labeled."[189] Due to all these flaws and mistakes, Hauser claims that ORA's survey results are not a valid measure of Pacific's service quality.

ORA did not change the survey questions – again at the Commission's direction – because it wanted the results to be comparable over time. While Pacific criticizes the poor quality of the survey, we find that ORA did precisely what it was directed to do: use the same survey as it used in 1995 so as to have a basis to compare Pacific's results. In this regard, the Commission stated in the OIR that, "Parties that conduct surveys are encouraged to adhere to the following principles. First, in developing the survey, the party should use as a starting point the surveys of Pacific and Verizon customers conducted by Commission staff in previous proceedings."[190]

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[187] *Id.* at 40: 17-21.

[188] *Id.* at 41: 12-15.

[189] *Id.* at 73:8-11.

[190] R.00-09-001, *mimeo.*, at A-3.

On the sample size, it is true that ORA did not follow up with customers in an attempt to increase the size of the sample of customers taking the survey. However, ORA did not follow up in 1995 either. As ORA points out, "had ORA attempted follow-up procedures that were different than the procedures in place in 1995, it would have lost the ability to do a fair comparison of the 1995 with the 2001 results." Dr. Kanter also explained that, "had I done follow-up phone calls, I would have changed the cast of characters, so to speak. The people responding would not have been as directly comparable to the people responding in 1995."[191] This, however, creates a serious dilemma because the sharp drop in the response rate in the 2001 survey from that of 1995 limits our ability to draw conclusions from the survey with statistical confidence.[192]

The methodological discussions brought up by Pacific in this proceeding regarding how to conduct a proper survey and analyze its results caution us on drawing conclusions based on ORA's survey instrument. As with almost all the other data presented in this proceeding, ORA's survey suffers from flaws. However, the survey still suggests that the consumer perception of Pacific's service quality fell between 1995 and 2001. For this reason, it is critical to turn to other surveys to see if this pattern is repeated or if Pacific's customers are not satisfied with Pacific's service quality.

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[191] ORA Opening/Service Quality at 20, citing 18 RT 2147:2-12.

[192] The overall response rate in the 2001 ORA survey was 12.1%. It was 28.1% in 1995.

2. Pacific's Surveys

a) J.D. Power Survey – Pacific

Pacific also submitted its own surveys. One of them was conducted by a global marketing information firm J.D. Power. Even though Pacific submitted little information about what the survey asked customers, Pacific's witness, Dr. Hauser, explained that these surveys did not "measure satisfaction with recent service events with Pacific (e.g., installations or repairs), but rather provided a general measure of satisfaction with overall customer service and its aspects."[193] That is, overall customer satisfaction is determined "by surveying over 12,000 households on the areas of customer service, cost of service, corporate image, call quality, promotions, billing, calling cards, and operator service."[194]

Pacific received a score of 110 in 2001 from J.D. Power, where 104 is the industrial average score.[195] Furthermore, Pacific is ranked in the top six out of the sixteen local service providers surveyed. [196] Pacific's witness, Dr. Hauser also stated that Pacific has consistently exceeded the industry average for every year from 1996 to 2001 and it has consistently ranked in the top six of local service providers.[197]

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[193] Exh. 2B:354 at 29:18-21 (Hauser Direct Testimony).

[194] Exh. 2B:354 at 30:3-6 (Hauser Direct Testimony).

[195] *Id.*, at 30:10-11.

[196] *Id.*, at 30:11-12.

[197] Exh. 2B:354 at 30:16-19 (Hauser Direct Testimony).

The information Pacific submitted indicated that the survey also included several factors that we consider peripheral to a true assessment of service quality, such as "corporate image" (which respondents ranked as one of the top three factors relevant to customer satisfaction, with 21% finding it important), "cost of service/value" (with 24%) and "calling card," which appear to relate to Pacific's prices and calling card services. These are not elements of service quality as examined in this decision. Thus, the J.D. Power surveys broader aspects of service quality than are the focus of our study. Nevertheless, it provides evidence that indicates that consumers are satisfied with Pacific's assessment of service quality.

b) IDC Survey – Pacific

Pacific's expert Dr. Hauser also summarized the results of a 2000 survey of various local exchange carriers by IDC, entitled "Telecommunications Consumer Brands Survey." According to Dr. Hauser, IDC is "a leading provider of technology forecasts, insights and advice."[198] Dr. Hauser reported that the IDC survey found that Pacific's customers are more satisfied than the average local telephone customer for all attributes studied except one; Pacific's customers are the second most overall satisfied for customer service; Pacific's customers are the third most satisfied for voice quality; and Pacific is one of the top three providers in over 85% of the areas measured. According to Dr. Hauser, the IDC survey polled 805 households nationally, and measured local telephone service

[198] Id., at 31:3-4.

customers' satisfaction with "customer service, fees, marketing, reputation, pricing structure and voice/service quality."[199]

Attachment 31 to Dr. Hauser's testimony summarizes the results of the IDC study. Two indicia of service quality contained in the survey are "customer service" and "voice or service quality."[200] For "customer service," 73.8% of respondents ranked Pacific as a 4 or 5 (with 1 = not very satisfied, and 5 = very satisfied). This places Pacific in the middle of the range for comparable carriers. Of the non-SBC companies, GTE/Verizon's comparable result was 83.1%, Bell Atlantic's was 80.7%, and Bell South's was 72.6%, and US West's was 63.1%.

Similarly, on "voice or service quality," 85.7% of customers ranked Pacific a 4 or 5. Of the non-SBC companies, Bell South scored 86.3, GTE scored 85.9, US West scored 83.8, and Bell Atlantic scored 83.5. Thus, when analyzing the tale of the distribution – those most satisfied – Pacific's results for these two measures are comparable to the other non-SBC carriers' results.

Thus, this statistically valid survey leaves little doubt that Pacific's customers have a positive view of Pacific's service quality.

c) Other Customer Surveys – Pacific

Pacific's witness, Dr. Hauser, explained that Pacific has a centralized organization that collects data on an ongoing basis by surveying customers with

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[199] Id. (Hauser Direct Testimony).

[200] The other indicia, "overall satisfaction," "fees and costs," "marketing style," "reputation of the provider," and "simplicity of pricing structure" either do not measure service quality at all, or pertain to measures in addition to service quality.

recent service interactions with Pacific. A sample of the customers is surveyed by an independent marketing firm, Market Insights, every month, 7-10 days after the service event and asked about their interaction with the business office and network operations.[201] These surveys are the source of data provided to the FCC in the ARMIS 43-06 reports.[202] The survey results are also reported to the CPUC under the P.A. 02-04 reporting requirement. The tables below summarize Pacific's performance from 1990 through 2001. The December measures reported includes the result for the previous 11 months as well, and therefore offers a tabulation of the entire year.

[201] Exh. 2B:354 at 32:16-20. (Hauser Direct Testimony).

[202] *Id.* at 33:2-3.

Pacific Bell Quality of Service Performance (2001-1996)
% of Customers Satisfied or Very Satisfied with Service
Source P.A.02-04

		Dec '01	Dec '00	Dec '99	Dec'98	Dec '97	Dec '96
Consumer	Provisioning	83.6	80.0	82.0	85.0	89.0	90.0
	Maintenance	83.4	72.6	74.0	75.0	75.0	81.0
	Account Service-Sales	86.0					
	Account Service-Billing/Inquiry	82.6					
	Account Service-Provisioning	83.6					
	Account Servicing		81.4	84.7		90.0	91.0
	Billing		78.9	82.0	76.5	82.0	80.0
	Sales and Inquiry				87.1		
Small Business	Provisioning	84.5	81.6	82.3	81.4		
	Maintenance	87.7	82.6	82.6	82.3		
	Account Service-Sales	87.5					
	Account Service-Billing/Inquiry	83.9					
	Account Service-Provisioning	84.6					
	Sales and Inquiry		81.9	82.2	82.3		
	Billing		78.3	79.7	77.8		
Medium Business	Activation/Provisioning	84.0	78.1	79.3	80.2		
	Assurance/Maintenance	87.3	80.4	79.9	79.4		
	Marketing-Account Team	81.7					
	Marketing-Sales/Inquiry	84.3					
	Marketing-Activation/Provisioning	84.0					
	Billing		78.5	80.9	43.6		
Large Business	Provisioning		81.4	86.3	84.0		
	Maintenance		75.2	80.8	77.9		
	Account Team		89.8	92.9	88.8		
	Billing		74.2	77.2	72.3		
Regional Market Business	Provisioning					86.0	88.0
	Maintenance					80.0	82.0
	Account Servicing					85.0	87.0
	Billing					82.0	83.0
High End Accounts	Provisioning					73.0	
	Maintenance					69.0	
	Account Servicing					86.0	
	Billing					72.0	
Operator Services	Operator Assistance			83.7	81.1	86.0	86.0
	Directory Assistance			80.1	82.8	84.0	84.0

Pacific Bell Quality of Service Performance (1990-1995)
% of Customers Satisfied or Very Satisfied with Service
Source P.A.02-04

		Dec '95	Dec '94	Dec '93	Dec '92	Dec '91	Dec '90
Consumer	Provisioning	92.0	93.0	93.0	95.0	96.0	96.0
	Maintenance	82.0	84.0	86.0	89.0	96.0	95.0
	Account Servicing	90.0	92.0	93.0	93.0	95.0	95.0
	Billing	82.0	81.0	81.0	82.0	98.0	93.0
	Sales and Inquiry						
	Network Services						99.0
Small Business	Provisioning			92.0	93.0	95.0	95.0
	Maintenance			90.0	91.0	96.0	96.0
	Billing			83.0	81.0	93.0	95.0
	Account Servicing			91.0	91.0	94.0	94.0
	Network Services						99.0
Major Business	Provisioning			91.0	91.0	95.0	95.0
	Maintenance			89.0	90.0	94.0	94.0
	Account Servicing			90.0	90.0	94.0	94.0
	Billing			84.0	83.0	98.0	97.0
	Network Services						99.0
Priority Business	Provisioning					98.0	99.0
	Maintenance					98.0	98.0
	Account Servicing					97.0	95.0
	Billing					90.0	89.0
	Network Services					99.0	98.0
Regional Market Business	Provisioning	91.0	91.0				
	Maintenance	85.0	86.0				
	Account Servicing	90.0	92.0				
	Billing	82.0	84.0				
National Accounts	Provisioning	92.0	90.0	95.0	92.0		
	Maintenance	94.0	88.0	93.0	89.0		
	Account Servicing	88.0	94.0	89.0	92.0		
	Billing	94.0	82.0	77.0	76.0		
Public Sector	Provisioning	93.0	93.0	96.0	94.0		
	Maintenance	81.0	85.0	93.0	91.0		
	Account Servicing	98.0	96.0	98.0	95.0		
	Billing	81.0	81.0	86.0	85.0		
Operator Services	Operator Assistance	87.0	85.0	87.0	87.0	97.0	97.0
	Directory Assistance	85.0	84.0	86.0	87.0	95.0	95.0

While Pacific reports the CPUC the percentage of the customers satisfied or very satisfied with Pacific's service, it also reports to the FCC the percentage of the customers dissatisfied or very dissatisfied with service as shown in the table below.

Pacific Bell Quality of Service Performance
% of Customers Dissatisfied or Very Dissatisfied with Service
Source ARMIS 43-06

		2001	2000	1999	1998	1997	1996	1995 Q2	1995 Q1	1994 Q2	1994 Q1
Installation	Residence	9.0	10.5	9.0	7.5	4.3	3.2	8.0	8.1	7.0	6.8
	Small Business	8.7	10.2	9.4	10.3	6.4	4.7	10.0	8.9	8.5	9.3
	Large Business	9.0	13.6	8.1	8.3	7.8	7.4	12.4	7.0	8.2	10.7
Repairs	Residence	10.7	18.0	16.4	16.3	11.2	8.0	17.0	19.0	16.6	14.4
	Small Business	7.0	9.2	9.4	9.8	8.9	7.9	15.0	15.5	16.6	13.4
	Large Business	5.8	10.5	8.6	9.6	9.6	7.9	14.1	13.9	15.1	16.7
Business Office	Residence	8.5	10.4	7.6	6.9	2.7	2.1	10.0	9.5	8.6	7.0
	Small Business	7.2	9.4	8.8	9.8	5.2	4.1	10.0	10.7	8.4	8.6
	Large Business	10.2	12.4	6.7	7.7	7.1	2.7	8.1	6.9	6.3	9.0

Pacific Bell Quality of Service Performance
The Number of Customers Surveyed
Source ARMIS 43-06

		2001	2000	1999	1998	1997	1996	1995 Q2	1995 Q1	1994 Q2	1994 Q1
Installation	Residence	11180	13517	13906	17205	28285	28335	14043	14355	14342	13407
	Small Business	11015	13320	11796	16704	30498	27526	14109	14113	14245	13659
	Large Business	2329	2295	4466	3625	884	485	274	351	426	271
Repairs	Residence	11153	13857	14312	16856	16949	17389	8609	9642	9575	9199
	Small Business	11060	13976	14332	16396	23015	20841	10439	11685	11660	11251
	Large Business	2084	2328	4466	3680	792	479	262	335	416	264
Business Office	Residence	22159	25111	14083	18184	19081	18955	9308	9384	8625	8832
	Small Business	21268	27645	26096	16277	18233	16237	7210	7914	8068	7457
	Large Business	591	579	6654	4857	794	408	223	297	375	234

Unlike the surveys discussed before, in these surveys "customers rate their overall satisfaction with their service interaction. In addition to their satisfaction with the service event, customers are asked about the ease of getting through to

the office as well as several questions that measure the skill of the Pacific representative answering the call, e.g., was the representative courteous, and the performance of the Pacific service technician who performed any necessary repairs, e.g., doing quality work and completing the work in a timely manner."[203]

Pacific has modified the surveys over the years by changing its rating scale in 1992 and 1998. The wording was also changed in 1998, with further changes following in 1999.[204] Consequently, as Pacific's witness, Dr. Hauser stated "In the Pacific CSQ survey, it is extremely difficult to compare responses prior to January 1998 with responses after the change in wording.[205] Therefore, he compared the data for the years 1994-1997 and 1998-2001 and presented the results in Attachment 32 and 33 of his testimony. According to Dr. Hauser, "Pacific's customers who are surveyed about repair work are three to six percentage points less dissatisfied than the average of the top ten LECs. Furthermore, Pacific's customers are less dissatisfied about the business office and installation work for each customer group surveyed. This analysis suggests that Pacific's service is good relative to its peers in 2001."[206] Dr. Hauser also examined the percentage change between 1998 and 2001 and reported the results in Attachment 32 of his testimony. According to his findings, Pacific's customers' dissatisfaction rose for only installation services for residential and large business

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[203] Exh. 2B: 358 at 7:5-12 (Flynn Direct Testimony)

[204] Id. at 7:16-22 and 8:1-17 (Flynn Direct Testimony).

[205] Exh. 2B:354 at 34:14-15 (Hauser Direct Testimony).

[206] Id. at 37:16-21 (Hauser Direct Testimony).

customers and business office services for residential and large business customers. The dissatisfaction declined for all other services and categories. In comparison, over the same period, the dissatisfaction for the services of the reference group rose for all categories except for repair services for large business customers. Pacific's witness Mr. Flynn identified dissatisfied ratings as relatively stable from 1994 through 2001.[207]

During the audit phase of this proceeding, the Commission's consultant, Overland Consulting (Overland), alleged that Pacific used a third-party research firm to conduct customer satisfaction surveys during the NRF period, and that Pacific did not file the surveys with the Commission as required by the NRF monitoring program.[208] According to Overland, the surveys were conducted under Pacific's Customer Service Quality (CSQ) process, and surveyed customers who had recent experience with Pacific in the areas of sales, billing, maintenance, installation, and operator services.

Overland reported that Pacific should have filed the surveys under NRF monitoring report P.A. 02-03, and that Pacific refused Overland's requests for copies of the surveys. In response to Overland's assertion that Pacific failed to file the surveys as required, Pacific states, "It is possible Overland has confused two monitoring reports, P.A-02-03 and P.A-02-04. Pacific understands that P.A-02-03, Customer Survey Report, refers to surveys initiated by the Commission . . .

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[207] Exh: at 12:2-3 (Flynn Direct Testimony).

[208] Exh. 2A:404, at 21-19 (Audit Report)

."[209] Pacific argues that it should not be obliged to produce its customer surveys because the requirement "has not been raised by the Commission or its staff in the last 11 years. . . ."[210]

We have reviewed the origins and purposes of reports P.A. 02-03 and P.A. 02-04, and find substantial confusion. In 1991, the Commission in D.91-07-056 also directed the staff to produce "a written assessment explaining who prepares each monitoring report that the utilities provide to our staff, and what purpose each of these reports serves for the utility and for the staff."[211] The staff's Monitoring Report Assessment, filed on May 1, 1992, contained the following description of "Customer Surveys" Pacific is required to file under report P.A. 02-03:

> 6. Customer Surveys: These surveys are given to customers who have direct contact with Pacific Bell and are used to measure customer satisfaction levels and perceptions of the company. *These surveys are conducted through the Corporate Research organization at Pacific Bell*, and historically have been provided to the DRA Telecommunications Rate Design Branch, and is [sic] used in DRA's ongoing service quality evaluation. The surveys are provided as initiated. It is recommended that these surveys continue."[212]

This appears to accurately describe the data submitted under PA 02-04.

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[209] Exh. 2B:340 at 22-23 (Hayes Direct Testimony).

[210] *Id.*

[211] *Id.*, OP 6.

[212] *New Regulatory Framework Monitoring Report Assessment*, I.87-11-033, Commission Advisory and Compliance Division, May 1, 1992, at 6 and 60 (emphasis added).

The Monitoring Report Assessment also describes a separate set of ongoing survey results that Pacific is required to file monthly under Report P.A. 02-04, as follows:

> "7. Quality of Service Performance – Customer Opinion Surveys: These surveys are conducted by the Company Measures and Statistics organization at Pacific Bell. A monthly report identifying the percentage of customers that are satisfied with Pacific Bell's service quality is provided to the DRA Telecommunications Rate Design Branch. DRA uses the information in these reports is used in it's [sic] service quality monitoring efforts. It is recommended that these surveys continue."[213]

The reports submitted under PA 02-04 do not appear to meet this description.

Pacific asserts that the P.A. 02-03 report refers only to surveys initiated by the Commission. Pacific's witness states that, if Pacific's understanding of its reporting obligation is incorrect, neither the Commission nor its staff has raised it as an issue in all the prior years of NRF monitoring. From the record of this proceeding, it is unclear whether any other survey data exist.

Despite the controversy surrounding the existence of PA.02-03 surveys, the extensive PA. 02-04 data were only minimally addressed in this proceeding by ORA. In addition, Pacific's ARMIS 43-06 service quality data was not discussed by ORA. TURN cited D.01-12-021 and stated that "there is nothing in the record of this proceeding that warrants the Commission revisiting the conclusion it reached in D.01-12-021 – the customer perception measured by the ARMIS data is not synonymous with Pacific's achieved level of service quality."[214]

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[213] *Id.*

[214] Opening Brief TURN at 31.

Although our previous decision rightly cautions reliance on survey data as a full measure of service quality, TURN's citation to this decision is irrelevant for the matter before us. Here, we use survey data as part of a systematic assessment of service quality that relies principally on the statistical analysis of direct measures of service quality. The failure of ORA and TURN to address this survey data is disappointing, and confirms our independent judgement that Pacific's surveys are accurate. Moreover, their principal finding of consumer satisfaction is consistent with the conclusion that we have drawn from our analysis of direct measures – Pacific's overall performance is good.

In conclusion, we note that Pacific has fully reported on its P.A. 02-04 surveys, which show a record of strong customer satisfaction. We find no reason to believe that anything other than a good-faith confusion has led to the lack of reports to be filed under P.A. 02-03. We will resolve this reporting confusion in the next phase of this proceeding. The central question that we will address is whether Pacific has provided the Commission all the data that it has. From our review of the record, it appears that this simple question was never directly asked or answered.

B. Customer Satisfaction and Service Quality Surveys – Verizon

1. ORA Survey

ORA's customer service quality survey for Verizon showed that in the minds of the customers surveyed, Verizon's service quality has improved since 1991.

2. Verizon's Surveys

Verizon claims it surveys its California customers by conducting over 1,000 interviews per month covering Directory Assistance, Consumer and Business Provisioning (which covers installation of new service), Consumer and

Business Repair (which covers diagnosis, repair, and restoration of existing service), and Consumer and Business Request and Inquiry (which covers requests and inquires directed to the Business Office regarding customer bills, products and services, prices, and company policies).[215] The results of these surveys show that Verizon offers good service quality. Neither ORA nor TURN challenged the results of these surveys.

VI. Other Direct Measures of Service Quality

In addition to the systematic study of service quality measures and a survey based assessment of customer experiences, it is also important to examine the experiences of those customers who have had the worst experiences with telecommunications utilities. For this reason, we now examine the history of complaints for Pacific and Verizon, starting with customer complaints and ending with those that have led to formal regulatory proceedings.

Before our analysis of complaints, we must know the customers served by Pacific and Verizon. According to each company's annual reports to the FCC for 2001 included in the table below, we find that Pacific has 25.4 million access lines, while Verizon has 6.3 million access lines.

CALIFORNIA LEC YEAR-2001 NUMBER OF ACCESS LINES[216]			
	SWITCHED	NON-SWITCHED	TOTAL
COMPANY	ACCESS LINES	ACCESS LINES	ACCESS LINES
PACIFIC BELL	17,548,599	7,858,177	25,406,776

[215] Verizon Opening/Service Quality at 51-52.

[216] Source: Pacific and Verizon ARMIS 43-08 reports, Table III, for 2001, available at http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/43-08/frame3.hts.

VERIZON CALIFORNIA, INC.	4,721,336	1,621,152	6,342,488

Thus, with service levels of this size, it is reasonable to expect a number of complaints. Moreover, while making comparisons between the two utilities, we must remember that Pacific has approximately 4 times the number of access lines in California than does Verizon.

A. Informal Complaints: Pacific Low Incidence

In the OII initiating this proceeding, the Commission listed informal complaint data for Pacific Bell in Appendix C, as follows:

Number of Informal Complaints Filed at the Commission
January 1, 1995, through July 12, 2001

	Pacific Bell							
	Category of Complaint	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1	Delayed Orders & Missed Appoint.	71	259	644	650	409	623	157
2	Quality of Service (e.g., static, crossed lines, intermittent service, etc.)	947	1,416	1,780	1,639	1,095	1,324	380
3	Disputed Bill	1,334	1,733	2,171	2,113	1,404	2,365	1,249
4	Disconnections	93	186	286	441	306	500	173
5	Deposits	111	100	191	176	128	104	43
6	Disputed Customer of Record	166	121	206	239	238	134	55
7	No Notice	39	65	104	125	127	15	0
8	Late Payment Charge	12	6	10	10	13	0	0

	Pacific Bell							
	Category of Complaint	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
9	Rate Design	175	62	82	150	39	20	11
10	Rules	363	272	465	249	78	152	82
11	Directory	143	89	144	123	109	13	0
12	Company Practice	459	376	319	303	131	498	249
13	Miscellaneous	286	317	262	272	273	294	120
14	Baseline	0	0	1	1	0	0	0
15	Surcharges/Taxes	13	17	73	47	145	55	36
16	Number/Area Code	2	31	48	48	46	18	8
17	Rate Protest	8	24	6	105	11	3	6
18	Master/Sub Meters	0	0	0	2	0	0	0
19	Bill Format	5	5	18	4	10	1	0
20	Commission Policy/Practices	2	1	1	1	4	0	0
21	Operator Services	1	11	12	29	35	2	0
22	Annoyance Calls	18	26	37	53	58	3	0
23	Payment Arrangements	223	295	609	420	124	10	20
24	Commitment	7	52	923	301	100	55	6
25	Pay Per Call Service	65	44	94	26	17	3	1
26	Refusal to Serve	40	53	141	70	10	1	2
27	Estimated Billing	0	1	0	1	0	0	1
28	Deaf Program	0	1	1	2	7	2	2
29	Balance/Level Pay Plan	0	0	0	1	0	0	0
30	Illegal Activities	0	0	0	1	0	6	0
31	COPT	9	12	8	9	3	2	1
32	Custom Calling Features	160	426	129	294	271	472	42
33	Inside Wiring	98	54	70	100	62	28	6

	Pacific Bell							
	Category of Complaint	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
34	Abusive Marketing	41	41	48	53	93	86	26
35	Backbilling	0	0	8	12	21	7	1
36	Centralized Credit Check System	21	7	4	29	59	7	0
37	Female/Minority Business Enterprise	0	1	4	2	0	0	0
38	Mergers	0	5	0	0	1	0	0
39	Low Income Programs	17	9	11	2	18	10	10
40	New Incentive Regulatory	274	7	6	7	13	5	2
41	Safety	0	5	9	10	4	11	3
42	Electromagnetic	0	0	0	1	0	0	0
43	Landline to Cellular	0	0	0	2	4	0	0
44	Improper Advertising	0	0	0	13	8	1	0
45	Cramming	0	0	1	30	27	77	75
46	Outages	0	0	0	4	7	64	15
47	Anonymous Call Rejection	0	0	0	21	5	0	0
48	Prepaid Phone Card	0	0	0	0	2	3	2
	TOTALS	5,203	6,130	8,926	8,191	5,515	6,974	2,784

In Exhibit 2B:701(C),[217] the Commission's legal staff clarified how the data in the foregoing table were derived. The data were compiled from summary reports maintained in the database of the Commission's Consumer Affairs Branch (CAB). An informal complaint, as the term is used in the context of the foregoing data, "is one that is handled by CAB staff in an attempt to come to a mutually agreed upon resolution between the consumer and the utility."[218] The numbers do not include formal complaints, which "consumers may also file . . . with the Commission and [which] are handled by the ALJ Division." CAB also furnished Pacific Bell the underlying data from which it compiled the results.

Pacific did not object to receipt of the complaint information into evidence.[219] Thus, we will assume the informal complaint figures are valid as reported.

Because the informal complaint data were not organized into categories reflective only of service quality problems, we have summarized the results of complaints that relate most directly to service quality. The results are as follows:

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[217] The "C" designates a confidential exhibit. However, none of the summary statistics contained in Appendix C to the OII in this decision require confidential treatment, as they do not identify individual customers or otherwise compromise the trade secrets of any telephone company.

[218] *Id.*

[219] *See* 23 RT 2998:10-25.

PACIFIC COMPLAINT DATA BY SERVICE QUALITY RELATED CATEGORIES								
	(1995 - July 12, 2001) Pacific							
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001***	**Total**
Abusive Marketing	41	41	48	53	93	86	26	388
Quality of Service	947	1416	1780	1639	1095	1324	380	8581
Operator Services	1	11	12	29	35	2	0	90
Safety	0	5	9	10	4	11	3	42
Outages	0	0	0	4	7	64	15	90
Delayed Orders & Missed Appts	71	259	644	650	409	623	157	2813
Missed Commitments	7	52	923	301	100	55	6	1444
TOTAL	1067	1784	3416	2686	1743	2165	587	13448

*Partial year data

It is difficult to analyze these data in all their possible permutations, but we can make at least two observations. First, informal complaints were at their highest in 1997-98 and 2000. They spiked in 1997, and are lower now. Second, the ratio of service quality complaints to overall complaints has fluctuated significant over the years, with 1997-98 and 2000 the worst years in this category.

It is difficult to assess what this data means. Clearly the data show that over the last six years, the number of complaints filed at this Commission has varied greatly without any linear trend. On the other hand, with 25.4 million access lines in California, the number of service quality complaints made by customers affects a very small percentage of lines in service. In 1997, the worst year, informal complaints made to the Commission totaled 3416, or only 0.02% of lines were affected by a service quality complaint. This is approximately 2 in 10,000 lines. In 1995, the best year in our sequence (2001 is a partial year), there were 1067 complaints. This is approximately .006%, or approximately 6 in

100,000 lines. Thus, the Commission's complaint data provides information on the experiences of only a very small number of customers.

B. Informal Complaints: Verizon Very Low Incidence

The OII initiating this proceeding also attached Verizon's informal complaint record, as follows:

Number of Informal Complaints Filed at the Commission

Verizon - January 1, 1995, through July 12, 2001								
	Category of Complaint	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1	Delayed Orders & Missed Appoint.	20	7	44	94	44	80	44
2	Quality of Service (e.g., static, crossed lines, intermittent service, etc.)	183	250	243	217	193	188	77
3	Disputed Bill	502	655	767	807	489	692	365
4	Disconnections	29	56	61	106	61	59	35
5	Deposits	39	44	47	21	23	22	7
6	Disputed Customer of Record	27	21	53	59	67	37	12
7	No Notice	14	31	22	19	26	0	0
8	Late Payment Charge	3	3	5	7	4	0	0
9	Rate Design	300	28	47	67	9	9	6
10	Rules	20	52	74	69	16	20	21
11	Directory	25	31	47	107	39	0	0
12	Company Practice	26	79	54	58	21	60	44
13	Miscellaneous	76	54	47	77	61	57	25
14	Baseline	0	0	0	0	0	24	0
15	Surcharges/Taxes	15	2	18	36	28	8	14
16	Number/Area Code	1	0	15	14	22	0	1
17	Rate Protest	1	0	2	3	2	0	0
18	Master/Sub Meters	0	0	0	0	0	0	0

19	Bill Format	5	1	3	2	1	0	0
20	Commission Policy/Practices	0	1	1	0	0	0	0
21	Operator Services	0	2	8	6	9	0	0
22	Annoyance Calls	6	5	10	6	14	0	0
23	Payment Arrangements	30	17	38	73	28	5	3
24	Commitment	0	1	9	16	12	2	1
25	Pay Per Call Service	16	19	15	13	5	0	0
26	Refusal to Serve	11	2	14	12	2	1	1
27	Estimated Billing	0	0	0	1	0	0	0
28	Deaf Program	0	2	0	0	2	1	0
29	Balance/Level Pay Plan	0	0	1	1	0	0	0
30	Illegal Activities	0	0	0	0	0	2	0
31	COPT	2	0	5	3	0	0	0
32	Custom Calling Features	21	93	45	42	44	21	0
33	Inside Wiring	13	1	12	13	16	6	3
34	Abusive Marketing	10	35	31	36	19	22	21
35	Backbilling	2	0	3	2	2	1	1
36	Centralized Credit Check System	50	28	43	24	20	1	0
37	Female/Minority Business Enterprise	0	0	0	0	0	0	0
38	Mergers	0	0	0	0	0	0	0
39	Low Income Programs	14	3	18	0	5	8	2
40	New Incentive Regulatory	265	1	1	4	3	0	0
41	Safety	0	0	0	1	1	0	1
42	Electromagnetic	0	0	0	0	0	0	0
43	Landline to Cellular	0	0	0	0	1	0	0
44	Improper Advertising	0	0	0	0	3	0	0
45	Cramming	0	0	0	16	10	6	7
46	Outages	0	0	0	0	0	3	9
47	Anonymous Call Rejection	0	0	0	0	0	0	1
48	Prepaid Phone	0	0	0	1	1	1	0

	Card							
	TOTALS	1,726	1,524	1,803	2,033	1,303	1,336	701

Verizon's totals compare to Pacific's as follows:

Verizon	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Totals	1,726	1,524	1,803	2,033	1,303	1,336	701

Pacific	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Totals	5,203	6,130	8,926	8,191	5,515	6,974	2,784

We note that Verizon's pattern of complaints has the same spiked pattern as Pacific's, jumping in 1997 and 1998, and then declining. This repetition of the pattern suggest a causal factor beyond the companies' control.

However, Pacific also has more than 4 times the number of access lines in California than does Verizon. If one organizes Verizon's data into the same categories as we did for Pacific – that is, those most directly related to service quality, Verizon's numbers are far lower proportionately than Pacific's:

	Verizon							
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Total**
Abusive Marketing	10	35	31	36	19	22	21	174
Quality of Service	183	250	243	217	193	188	77	1351
Operator Services	0	2	8	6	9	0	0	25
Safety	0	0	0	1	1	0	1	3
Outages	0	0	0	0	0	3	9	12
Delayed Orders & Missed Appts	20	7	44	94	44	80	44	333
Missed Commitments	0	1	9	6	12	2	1	41
TOTAL	**213**	**295**	**335**	**370**	**278**	**295**	**153**	**1939**

Pacific's comparable numbers – with four times the access lines – are as follows:

	Pacific							
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**Total**
Total	1067	1784	3416	2686	1743	2165	587	13448

If one multiplies the Verizon figures by 4, Verizon's proportional numbers are far lower than Pacific's. This finding comports with the assessment that we earlier made on service quality measures: in general, Verizon's service quality is better than Pacific's.

Beyond this obvious result, it is difficult to assess just what this data means. Once again, the percentages of lines affected by an informal Commission complaint are extremely small. In 1998, Verizon's worst year, only 0.08% of lines were affected by a service quality complaint. This is approximately 8 per 10,000 lines. In Verizon's best year, 1995 (2001 is not a complete year), the percentage is 0.0053%, or about 5 per 100,000 lines. Thus, only a very small percentage of access lines are affected by a Commission-filed customer complaint.

C. Formal Complaints – Pacific

TURN relies on several formal Commission proceedings to make its case that service quality has declined under NRF. We briefly discuss each below. TURN also notes that the pace of such cases seems to have increased since 1995, indicating that the tendency for service quality decline under NRF has not diminished with the passage of time.

TURN's list of proceedings shows that there have been at least six proceedings finding serious problems with Pacific's service quality since 1995, as compared to two proceedings in the five-year period from January 1990-

December 1994. TURN points to the following cases over the period 1991-present:

- C.91-03-006/D.93-05-062 regarding late payment charges. Pacific was found to have imposed erroneous late payment charges because it did not timely process payments as they came into its payment processing center. [220] The Commission required Pacific to refund $34 million in unlawful late charges, and to pay a $15 million fine.

- A.92-05-002/D.94-06-011 NRF review; settlement with ORA's predecessor, DRA, regarding Pacific's TRSAT answer times, among other things.[221]

- A.95-12-043/D.97-03-021 regarding ISDN.[222] The Commission found Pacific had insufficient staffing, and poor installation and customer service records, and noted that incentives to cut costs prevented Pacific from addressing the problem. We found that, "Pacific does not provide high quality customer services to its ISDN customers and potential ISDN customers . . . ."[223]

- A.96-04-038/D.97-03-067 regarding the Pacific Telesis/SBC merger.[224] In this case, ORA's predecessor (DRA)

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[220] D.93-05-062, *mimeo.*, at 15, 1993 Cal. PUC LEXIS 394, at *21.

[221] 1994 Cal. PUC LEXIS 456, at *158-59.

[222] 1997 Cal. PUC LEXIS 142. ISDN was an early means of boosting the capacity of existing copper connections between a customer's premises and Pacific's switching facilities.

[223] *Id.* at *50, finding of fact 17. *See also* Exh. 2B:507 at 10-11 (Schilberg Direct Testimony).

[224] 1997 Cal. PUC LEXIS 629, at *131, 71 CPUC 2d 351, 395 (1997).

presented evidence of Pacific's poor performance on its TRSAT and BOAT reports. DRA also claimed that an inadequate workforce caused service deterioration in the TRSAT. The Commission concluded in D.97-03-067 that, "Pacific is and has been out of compliance with GO 133-B, apparently for some time. . . . Pacific failed to meet [the] standard for trouble report answering time almost 50% of the time for the period 1993 through the first six months of 1996 . . . ."[225]

The Commission threatened Pacific with penalties if it did not improve its results in 90 days. Subsequently, Pacific's TRSAT and BOAT results improved, and no penalties were imposed.

- C.98-04-004/D.01-09-058 regarding Pacific marketing abuse.[226] The Commission found that Pacific provided poor service quality and failed adequately to disclose information regarding its Caller ID, Wire Pro, and "The Basics" packaged services.

- C.99-06-053/D.01-10-071, in which Pacific was accused of deceptively marketing its "Saver 60" intraLATA toll calling plan. D.01-10-071 found that "The facts of this case show that Pacific acknowledged its error, took steps to avoid perpetrating the error (including a self-imposed ban on averaging customers' variable usage data), and promptly processed refunds for those customers disadvantaged by the error." Pacific settled by agreeing to provide customers notification of the error, make refunds and establish a two-

[225] D.97-03-067, 1997 Cal. PUC LEXIS 629, at *131, 71 CPUC 2d 351, 395 (1997).

[226] 2001 Cal. PUC LEXIS 914.

way feedback/complaint mechanism for telemarketing services.[227]

- C.99-16-018/D.01-12-021 found that the 45% increase in the average number of hours to restore dial tone service to residential customers over the period 1996 – 2000 violates § 451.[228]

- C.02-01-007/D.02-10-073 regarding DSL. Settled with Commission adopting Pacific's proposed penalty payment into the State general fund of $27 million. Pacific agreed in the settlement that "During the period of January 2000 through the [date of the settlement agreement], an estimated 30,000 to 70,000 [of Pacific's DSL affiliate's] customers complained about and/or experienced billing errors" and that these errors "were not resolved in a timely manner and/or required multiple calls and substantial investment of time to resolve."[229]

Pacific does not appear to have addressed the formal complaint data TURN cites, except to note that those proceedings should not be considered part of the record of this proceeding, and are irrelevant to an assessment of Pacific's service quality during the NRF period.

We may take official notice of actions of this Commission pursuant to Rule 73. Thus, the formal complaints Commission proceedings TURN or any party cites with regard to Pacific (or Verizon) need not be a part of the record of this proceeding in order for us to rely on them in rendering this decision.

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[227] D.01-10-071, 2001 Cal. PUC LEXIS 961, at *9-10.

[228] This finding comports with our own analysis of ARMIS data above.

[229] D.02-10-073, *mimeo.*, at 8.

Moreover, we disagree with Pacific's contention that its performance in the context of the listed formal proceedings is irrelevant here. This proceeding is our opportunity to examine the entirety of Pacific's record, and we find that these cases, when examined together, indicate that regulatory monitoring is essential to maintenance of good service quality. Moreover, these regulatory findings from formal proceedings tend to complement our own findings made on an analysis of the GO 133-B and ARMIS data.

TURN is correct that the pace of meritorious complaints has increased since 1995. We find that there were far fewer instances where the Commission has found violations of service quality rules or related matters during a similar time period preceding NRF.

What, however, do a mere eight enforcement proceedings spread out over more than a decade mean? Indeed, it is not possible to draw a conclusion by simply observing the increase in formal proceedings. In particular, we cannot say whether NRF itself caused the increase in formal complaints. Moreover, despite the increase in formal complaints, our data indicate a general improvement in Pacific's service quality under most measures. (Trouble repair intervals, associated with several of the formal complaints, remain a notable exception to this trend.) As noted earlier, NRF triggered a more systematic monitoring of service quality than was conducted in the pre-NRF period, and led to a greater Commission focus on service quality issues. Thus, it is more likely that these formal investigations resulted from in a greater focus on service quality on the part of the Commission than the alternative hypothesis – that NRF itself either triggered or permitted service quality problems. In particular, in the next section, we will see that Verizon exhibited the exact opposite pattern, an outcome that sheds doubt on the assignment of causality to NRF regulation.

D. Formal Complaints – Verizon

TURN cites two formal proceedings that it alleges show problems with Verizon's service quality:

- A.92-05-002/D.94-06-011 regarding GTEC (Verizon's predecessor) answer times and switch outages.[230] The Commission found that GTEC's answer times failed to meet minimum GO 133-B standards. For example, GTEC failed to meet the GO 133-B answering time standard for its Customer Care Centers in 17 out of the 24 months in 1991 and 1992. For the Customer Billing Centers, the average speed of answering time was approximately two minutes: 126.1 seconds and 113.1 seconds, respectively.[231] GTEC also had a high customer billing error rate, a disproportionately high number of informal complaints, inconsistencies in its service quality monitoring data and problems with its calling cards.

- C.98-04-004/D.98-12-084, approving GTEC's payment of $13 million to settle marketing abuse claims stemming from the period 1989-92.[232] However, we later found that we did not have all the facts surrounding the abuse in requiring GTEC to distribute $ 3.2 million among local groups within the Hispanic community for the purpose of telecommunications education and to report the names of recipients and amounts of contributions above its normal contributions.[233]

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[230] 1994 Cal. PUC LEXIS 456.

[231] 1994 Cal. PUC LEXIS 456, at *154.

[232] D.98-12-084, 1998 Cal. PUC LEXIS 910, at *13.

[233] D.98-12-084, 1998 Cal. PUC LEXIS 910, at *13.

We disagree with TURN's conclusion that this complaint data provides substantial evidence of poor service quality. The first complaint simply tracks the findings of our own data analysis – in some years Verizon failed to meet the GO 133-B service quality statndards. The second complaint arises from a marketing abuse action, and is more serious. Nevertheless, Verizon's formal complaint history during the NRF period compares favorably to Pacific's record and to its own prior record. Both formal complaints against Verizon relate to conduct early in the 1990s and before. Verizon's formal complaint history supports the service quality findings that we made based on our analysis of the service quality data – over the NRF period, Verizon's service quality has been exceptional. It does not support a finding of poor service.

VII. Other Issues In This Proceeding

As noted previously, this was a very contentious proceeding with numerous issues and disputes arising between parties. Although few of these issues were germane to our analysis of service quality, we address them in this section of the report.

A. Allegation by TURN that Pacific Inappropriately Aggregated Data Lacks Merit

TURN criticizes Pacific for aggregating data as part of Dr. Hauser's regression analysis.

We note that in our own analysis, we have not relied on any aggregate data. Moreover, we found much of the raw data contained in Dr. Hauser's testimony proved critical to our analysis. Quite simply, we cannot understand the basis for TURN's allegation. Our own analysis does not share that failing.

B. Technological Change and Affects on Pacific's Service Quality – None Documented

TURN contends that Pacific's deployment of advanced services – primarily its DSL service – threatens to create two classes of customers, those who have excellent service quality by virtue of their access to the most advanced telecommunications infrastructure, and "have nots" who have not had such architecture installed.

TURN's witness Terry Murray claimed that with Pacific's introduction of "Project Pronto," a project that involved broad deployment of advanced services technology, Pacific promised improvements in service quality from the new service. While Pacific backed off from several of its 1999 broadband network claims at hearing, in 1999 Pacific told investors that the new technology would 1) "be less vulnerable to weather conditions, thereby reducing trouble reports," 2) have "reduced activity . . . in the remaining copper plant because of improved reliability," 3) "avoid dispatches on many installations [and thereby] realize efficiencies in [SBC's] installation and maintenance operations," and 4) "substantially reduce the need to rearrange outside plant facilities when installing new or additional services."[234]

[234] Exh. 2B:505A (Confidential Exhibits to Murray Direct Testimony), SBC Investor Briefing, "*SBC Announces Sweeping Broadband Initiative,*" dated Oct. 18, 1999, at 7. There is nothing confidential about the investor briefing; indeed, the parties referred to its contents during the hearing.

Pacific's witness confirmed the foregoing 1999 claims at hearing.[235] For example, Pacific conceded that the use of fiber for voice service improves trouble report performance, that if fiber signal quality exceeds the minimum standard, Pacific does not reduce the quality to that minimum,[236] and that, at least with regard to data transmission, fiber loops may allow data to travel at the standard 56k modem speed, while copper loops may not.[237]

There is, however, a clear disparity between claims and performance. DSL deployment, as our formal complaint history illustrates, has led to increases in service quality, not the nirvana promised. Thus, we greet both Pacific's claims and TURN's allegations with skepticism.

TURN also alleges that selective deployment of broadband services creates the risk of discrimination in service provision. TURN argues: "The service quality enhancement of Project Pronto and similar major network improvements raises the possibility of the improvements being deployed in a manner that produces two-tiered basic service and distinct sets of 'haves' served off an advanced system and 'have-nots' served off the unimproved network."

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[235] Exh. 2B:360 at 9:10-23 (Boyer Reply Testimony); 23 RT 2915:11-14 & 2916:22-24 (Boyer) ("[T]he use of fiber to provide voice services could positively affect certain facts that contribute to trouble reports. . . . ALJ Thomas: And trouble reports affect customers? Witness Boyer: I will agree with that.").

[236] 23 RT 2914:23-26 (Boyer).

[237] Exh. 2B:357 at 45:9-12 (Resnick Reply Testimony) ("Although some customers have been able to use their 56 kbps [computer] modems to transmit data over voice-grade lines, transmission speeds of 56 kbps may not be attainable on POTS voice-grade lines for a number of reasons, such as bridge tap or loop length. Load coils and loop lengths can inhibit data transmission . . . .").

Pacific claims any such potential was mitigated in the Commission's SBC/Ameritech merger conditions addressing DSL availability in low-income neighborhoods and rural areas, there are at least three limitations on these conditions.

Despite the allegations made by TURN and ORA, our own experience indicates that the deployment of new technologies will not be correlated with socio-economic status. It turns out that it is the economically exclusive hillside homes in Northern and Southern California where advanced services such as DSL have proved problematic to deploy. Moreover, our own experience with previous telecommunications technologies is that even when the timing of the deployment of a technology is driven by market factors, eventually a technology becomes ubiquitous. In addition, the timing of deployment frequently proves poorly related to socio-economic factors. Indeed, the legacy infrastructure of offices in urban centers can even make it easier to deploy new technologies in declining areas than in areas of new growth.

Thus, we have no evidence that the deployment of new technologies will create a group of technology haves and have-nots. Furthermore, it is still unclear how income levels will affect subscription to advanced services, and there is no evidence before us on this matter. TURN and ORA have not suggested anything more than vague regulatory action at this stage. ORA simply states that "[b]ased on the record of this proceeding and on that of other proceedings before it, the

Commission needs to verify the service quality impacts of Project Pronto. . . ."[238] TURN suggests no regulatory changes either.

We see no need for action in this matter. We also note that we have recently opened a comprehensive rulemaking on broadband issues, which will address this issue based on facts, not speculation.[239]

C. Growth – Pacific

Pacific makes the point that its "service quality performance should be viewed in the context of developments during the NRF period . . . [including] growth in demand."[240] It points not only to changes in the California economy that increase or decrease demand, but technological change that stimulates demand for more telephone lines. Pacific further cites unbundling and interconnection requirements imposed in the Telecommunications Act of 1996.

Our own analysis based on statistical trends blends periods of fast growth with slow or no growth, thereby providing a picture of service quality largely independent of growth trends.

D. Staffing – Pacific

TURN further alleges that Pacific has cut staff in customer-facing areas, harming service quality. It cites evidence that field staff positions were reduced

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[238] ORA Opening Service Quality at 25.

[239] R.03-04-030

[240] Pacific Opening/Service Quality at 46.

at Pacific from 1989-95.[241] It claims the number of splicing technicians decreased by 26%, the number of systems technicians decreased by 35%, and that the average years of experience of Pacific's service technicians declined over that time period.

TURN also challenges Pacific's increasing use of outside contractors to perform fieldwork. On this latter point, TURN calculates that outside field contractors caused 14% of the cable cuts causing 911 outages in 2001.[242] Pacific does not refute this statistic.[243] TURN claims that Pacific's "outsourcing" of its DSL business to an unregulated affiliate – SBC's Advanced Services, Inc. (ASI) – caused a rise in service quality complaints, leading to C.02-01-007.

ORA makes similar claims, and also points out that Pacific lent service employees to other states without regard for the impact these employee transfers would have on Pacific's service quality back in California.

Pacific focuses on a different, later time period, and states that evidence TURN's own witness presented shows that from 1996-2001, Pacific increased its staffing levels of personnel with direct customer interaction by over 30%. TURN concedes that Pacific increased the number of service representatives by 61% from 1996 to 1998.[244] Pacific's witness Mr. Resnick explained further that, after

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[241] TURN Opening/Service Quality at 17, citing Exh. 2B:507 at 8, table 1 (Schilberg Direct Testimony).

[242] TURN Opening/Service Quality at 36-37.

[243] Pacific Reply/Service Quality at 57.

[244] TURN Opening/Service Quality at 24.

the recession in the early 1990s when demand slowed for Pacific's services, Pacific actually increased these staffing levels by over 57%.

While the record supports the claim that Pacific's staff decreased during the early years of NRF, it also appears Pacific made up for those losses in the second half of the 1990s, at least in the area of the customer-facing employees who have the most direct impact on service quality. We do not find that the record of this proceeding, standing alone, supports the claim that Pacific's customer-facing staffing levels caused problems with service quality, especially since the uncontradicted evidence shows that Pacific increased its customer-facing staff in the latter part of the decade. We see no reason to change any reporting requirements in this area.

E. Weather – Pacific

Pacific claims that rainfall increased its trouble ticket rates and that findings regarding its service quality during periods of excessive rainfall should be tempered by this fact.

In response, ORA points out, Pacific's data showed that trouble tickets actually increased as rain declined in certain years.[245] ORA's witness, Dale Piiru, therefore points out that Pacific's witness "does not provide an adequate correlation between extreme weather events (rainfall totals) and resulting protracted out-of-service intervals."[246]

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[245] ORA Opening/Service Quality at 23, citing Exh. 2B:356 (Resnick Direct Testimony) (Q2-Q3 1997, Q2-Q3 1998, Q2-Q3 1999 and Q2-Q3 2000).

[246] Exh. 2B:139 at 3 (Piiru Reply Testimony).

According to Piiru, ORA found that in 1994-95, when rainfall was higher and economic damage throughout the state 355% higher as compared to 1998, Pacific's average residential repair intervals in 1994-95 were 49.25% less than in 1998. Overall, Pacific's average residential out-of-service repair interval increased by 130% from 1994 to 1998, with a 70.6% increase between 1996 and 1998.[247] Piiru concludes that Pacific's assertions about weather and its impact on service quality are "overly general and unsupported."[248]

Pacific contends that ORA erroneously bases its analysis of weather on the dollar value of economic devastation in 1994-95 as compared to the El Niño year in 1997-98, and that the damage in the San Francisco area, where Pacific serves "millions of customers" was far higher during the El Niño season. An examination of weather data reveals that during the 1997-98 El Niño season, rainfall in downtown San Francisco was 47.19 inches,[249] 230% of normal seasonal rainfall.[250] In the 1994-95 season, the comparable total was 34.02 inches.[251]

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[247] *Id.* at 4.

[248] *Id.* at 2.

[249] Another website lists the total as 47.22 inches. http://ggweather.com/sf/daily.html#b.

[250] *See* http://ggweather.com/nino/calif_flood.html & http://tornado.sfsu.edu/geosciences/elnino.html. Mr. Piiru cited the former website, and his testimony was admitted into the record without objection. Exh. 2B:139 at 4 & n.3 (Piiru Reply Testimony).

[251] http://ggweather.com/sf/daily.html#b. We may take official notice of rainfall totals pursuant to Rule 73.

Thus, Pacific is correct that the 1997-98 season had greater rainfall in San Francisco (the location on which Pacific focused) than did the 1994-95 season; that difference may explain some of the increase in trouble reports for the El Niño season as compared to 1994-95.[252]

Our analysis seeks to explain broad trends in service quality, not year-to-year variation. Although it is true that meteorological events such as rainfall affect service quality, we see no reason to modify any of our findings.

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[252] Comparable totals were as follows:

2000-01	19.47 inches
1999-00	24.89 inches
1998-99	23.49 inches
1997-98	47.19 inches
1996-97	22.63 inches
1995-96	24.89 inches
1994-95	34.02 inches
1993-94	15.22 inches
1992-93	26.66 inches
1991-92	19.20 inches
1990-91	14.08 inches
http://ggweather.com/sf/daily.html#2002	

F. Marketing – Pacific

The Commission's authority over service quality encompasses more than network technical performance.[253] The Commission recently stated it "believe[s] that service quality measures should go beyond technical performance measures, and should also include measures of customer service and related consumer impact measures."[254] Thus, it is appropriate to consider trends and patterns in customer-affecting practices such as cramming, slamming and other marketing abuses during our assessment of service quality under NRF.

Both TURN and ORA point to cases in which the Commission found that Pacific engaged in abusive marketing to show problems in Pacific's service quality.

Pacific has already been penalized in connection with those cases. Moreover, our statistical and survey measures pick up any long-term or residual impacts on customers. Thus, we see no need to re-examine this issue.

G. Still Other Issues – Pacific

Finally, TURN points to changes since NRF that it contends also merit a reexamination of the incentives the framework creates. It claims that "to enhance revenues, utilities under incentive regulation will seek to charge for services that

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[253] "The Commission shall require telephone corporations to provide customer service to telecommunication customers that includes, but is not limited to… reasonable statewide service quality standards, including standards regarding network technical quality, customer service, installation, repair, and billing." Cal. Pub. Util. Code § 2896(c).

[254] R.02-12-004, *mimeo.*, at 29.

were formerly free." It cites Pacific's decisions to restrict the availability of free telephone directories and to charge more for directory assistance calls.

Pacific takes issue with TURN's facts regarding directories and directory assistance calls.

We have no evidence to find a connection between the NRF mechanism and the changes TURN alleges. Moreover, this Commission approved the requested rate changes after an examination of costs and consistent with NRF. It would therefore be wrong to either penalize utilities or declare NRF a failure because NRF it operates as designed.

H. Movement of Functions to Unregulated Affiliates – Verizon

TURN notes that "Recently, Verizon's California predecessor (GTEC) and Pacific Bell have respectively been merged into the nation's largest and second largest carriers."[255] However, it identifies no specific problems stemming from the Verizon merger. TURN notes the FCC's MCOT requirements stemming from the Verizon-Bell Atlantic merger expired in November 2002, but in its motion seeking an order continuing Pacific's parallel reporting requirements, TURN stated that Verizon agreed voluntarily to continue these reporting requirements until after a final decision issues in this proceeding.

To make Verizon's obligation the same as Pacific's regarding MCOT reporting, we will require Verizon to continue to report MCOT data to this Commission until further notice. We agree with TURN that we should consider the usefulness of MCOT data in Phase 3B of this proceeding and determine

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[255] TURN Opening/Service Quality at 7.

whether we should require the carriers to continue to report such data even after their merger obligations expire.

Moreover, the assigned Administrative Law Judge made clear during the hearing that regulatory changes in this area are outside the scope of Phase 2A, and instead should be addressed in Phase 3B, if at all.[256] We therefore defer this issue to later in this proceeding.

We note that there is one significant difference between Pacific and Verizon in the area of advanced services such as DSL, on which TURN focused much of its concern. While Pacific continues to offer its advanced services in a separate affiliate, Verizon seeks to transfer those services back to the regulated utility.[257] If granted, the transfer may limit the concerns TURN raises, but it is premature to address this issue. Moreover, the organizational structure concerning the delivery of DSL services also involves complex Federal/State issues that we see no reason to examine here.

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[256] 18 RT 2263-67. Any reference to Phase 3B in this decision should be interpreted to include a separate phase if the Commission further segments this proceeding in the future.

[257] A.01-11-014. The Commission has not yet acted on this application, in part due to uncertainty about whether the Commission should decide competitive issues Verizon's competitors raise with regard to DSL services in A.01-11-014 or in another more comprehensive proceeding regarding the incumbent local exchange carriers' obligations to share DSL lines with competitive carriers (R.93-04-003 *et al.*).

I. Service Performance Guarantee - Verizon

Verizon offers its customers a "service performance guarantee" (SPG) when customers believe – "rightly or wrongly"[258] – that Verizon has delivered problematic service.[259] We wholeheartedly support the SPG program as a good way to offer recompense to customers immediately after they suffer service problems.

In order for such a program to work fairly, Verizon should ensure it properly discloses the SPG to all customers. Moreover, because a customer must request the credit in order to get it – "it's our procedure that the customer requests the credit"[260] – it is very important that every customer know of the credit up front in order for it to be applied fairly. Therefore, it is important for Verizon to follow their procedures clearly.

We note that the procedures are clear and embedded in Verizon's tariff. Moreover, there is no allegation in this proceeding that Verizon fails to follow it procedures, and no complaints concerning this matter. We see no need for further action on this matter. Indeed, in the absence of complaints, it would

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[258] Verizon Reply/Service Quality at 23.

[259] Verizon's SPG was originally a provision of Contel of California's (Contel's) tariffs prior to the GTEC/Contel Merger. ORA's predecessor argued during the merger proceeding that Contel's SPG was superior to Verizon's, and adoption of Contel's SPG by Verizon should be a condition of the merger. However, before the Commission ruled on the issue, Verizon voluntarily adopted the SPG contained in Rule Nos. 18 and 19 of its tariffs. Advice Letter No. 5521, filed August 30, 1993.

[260] 20 RT 2493:20-21. *See also id.* at lines 17-19 (Q. "Does a customer get . . . a credit without ever having called Verizon to complaint? A. No, they shouldn't be . . . .").

appear that regulatory scrutiny of a voluntary service quality initiative in excess of standard review of Verizon's tariffs would simply create regulatory disincentives and regulatory uncertainties that would discourage similar offerings by other carriers.

J. Technological Change – Verizon

Neither TURN nor ORA made specific allegations about Verizon related to the impact of technological change on its service quality.

K. Growth – Verizon

TURN made the same arguments with regard to Verizon as it did regarding Pacific. TURN states that a carrier should not benefit from relaxed service quality expectations because it experiences a period of great growth in demand, access lines, customers, or company size.

Verizon does not disagree with TURN in this regard. Rather, it simply reports increases in demand for its services and explains the investments it made to meet this growth.

We note that the statistical methods used in this analysis did not make adjustments for adverse impacts of growth on Verizon's service quality.

L. Staffing – Verizon

TURN shows that Verizon's field staff has declined over the period 1989-1994. TURN states that Verizon's field staffing declined by 35% from 1989, the year the Commission implemented NRF, to 2000, with a large reduction (42%) occurring from 1989-1994.

Verizon's reply testimony suggests that a smaller decline occurred. Verizon acknowledges reductions in force, but claims that because Verizon redefined certain field positions, the raw numbers TURN used above and elsewhere in its testimony are misleading. It states that the total reduction in

cable splicers or their equivalents was 17%, not the much higher percentage TURN claimed.

Our analysis, however, found that Verizon offers exceptional service quality, and we find no need to second-guess staffing decisions.

M. Weather – Verizon

Verizon acknowledges that service quality suffered during the first quarter of 2001 due to unusually heavy rains: "[T]he [repair] intervals were extraordinarily high during the January, February, and March period, due to some prolonged rains that we experienced at that particular point in time."[261]

We note that although weather is clearly a factor affecting service quality, our findings of good service quality required no adjustments for weather.

N. Marketing – Verizon

In claiming Verizon has engaged in marketing abuse, TURN again cites C.98-04-004/D.98-12-084, in which the Commission approved GTEC's payment of $13 million to settle marketing abuse claims stemming from the period 1989-92.[262] TURN also claims that Verizon has "misused customer contacts as marketing devices."[263]

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[261] 20 RT 2488:5-7 (Anders).

[262] We discuss this case in full in the Section entitled "NRF Incentives and Service Quality – Verizon – Introduction," above.

[263] TURN Opening/Service Quality at 42.

Clearly, this decision speaks for itself and for the Commission's willingness to investigate and sanction marketing abuses. There is no need for further action.

O. Mergers and Structural Changes – Verizon

No party alleges that Verizon's mergers and structural changes have had an impact on service quality. Nor does Verizon – in contrast to Pacific – argue that changes in the company attributable to its growth in size are mitigating factors that explain its service quality results.

Our earlier analysis of MCOT data found no diminishment of service quality as a result of GTE's merger with Bell Atlantic that resulted in Verizon. Based on this empirical analysis, we did not find that in Verizon's case mergers or structural changes have had an impact on its service quality.

VIII. NRF Incentives, Service Quality, and Competition

A. NRF Incentives and Service Quality, Positions of Parties

The parties dispute the impact of NRF incentives on service quality. TURN claims that NRF creates incentives to save money at the expense of service quality. It contends that NRF's emphasis on cost cutting and revenue enhancement has led to deterioration of service quality. It also believes the introduction of new technology affects service quality and may result in discrimination among technology "haves" and "have nots." It alleges that NRF creates incentives for the regulated utility to move functions outside the utility to an unregulated environment, which can leave regulated customers without adequate service. It disputes Pacific's claim that its other rates subsidize basic service, which Pacific claims minimizes its ability to cut costs for – and therefore undermine the quality of – basic telephone service. It does not believe that competition provides an incentive for good service quality. Finally, it believes

that positive change will only result from active regulation in connection with NRF.

TURN points to evidence demonstrating that NRF incentives to cut costs and increase revenues have lowered service quality. TURN bases its allegations about repairs, installation and answer times on the reporting we discuss elsewhere in this decision. Concerning Pacific, TURN claims that the data show adverse impacts causing slow repairs, slow installation, slow telephone answer times, erroneous late payment charges, errors resulting from outsourcing company functions, charging for services that were formally free, and marketing abuses.

TURN relies on other formal Commission proceedings for its claims about late payment charges, outsourcing, service-charges, marketing abuses, and deteriorating service quality.

Similarly, ORA alleges that under NRF Pacific has "reduced [its] quality of service, grossly inflated staffing claims, . . . moved portions of the labor force out of California . . . , and had sustained facilities shortages. . . ."[264]

Pacific responds that these claims indicate fundamental disagreement with incentive-based regulation and that the criticisms do not belong here. Pacific states that in fact NRF gives it "strong incentives to provide high-quality service, to retain as many customers as possible, and thereby reduce the opportunity for competitors to 'cream-skim' the most profitable, lower cost, and high-usage

[264] ORA Opening/Service Quality at 3.

customers."[265] It claims that the Commission adequately regulates service quality under NRF through its GO 133-B requirements and other monitoring reports, and that "[t]he Commission has not taken any steps to rescind NRF because . . . Pacific has consistently met or exceeded the Commission's benchmarks under GO 133-B."[266]

As it does for Pacific, ORA alleges that under NRF Verizon – albeit to a lesser extent than Pacific – has "reduced [its] quality of service, grossly inflated staffing claims, . . . moved portions of the labor force out of California . . . , and had sustained facilities shortages. . . ."[267]

TURN cites several specific problems with Verizon that allegedly support its claims about NRF. It states that "like its TRSAT, Verizon's BOAT was often below the GO 133-B standard, until shortly after the SBC/Pacific Bell merger decision, wherein the Commission stated that it would enforce the standards."[268]

Verizon responds that "Verizon's service quality results are compelling evidence that NRF gives strong incentives to provide high quality service." Thus, it agrees that we must examine its specific service quality results in order to determine the veracity of TURN's claims. However, Verizon also claims that NRF "encourages carriers to focus on service quality," citing several measures

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[265] Pacific Opening/Service Quality at 8.

[266] *Id.*

[267] ORA Opening/Service Quality at 3.

[268] TURN Reply/Service Quality at 7.

that Verizon has employed that go beyond the bare bones reporting that this Commission and the FCC require.[269]

B. Discussion: Incentives to Improve Service Quality Under NRF are Similar or Better than those Under Cost-of Service Regulation

A comparison of the incentives affecting service quality under rate of return regulation with those under NRF shows that they are very similar. Under rate of return regulation, as practiced in California, between general rate cases, a utility can keep all the cost savings that it can realize. Thus, traditional regulation provided substantial incentives to reduce service quality expenses between rate cases.

Two other features of rate of return regulation, however, tempered the incentive to cut expenses. At the next general rate case, if a utility had reduced its service quality expenses, it could lead to setting of a lower revenue requirement. In addition, if a service quality improvement required a capital investment, rate of return regulation provided an incentive to make the investment. In contrasts, service quality improvements that required addition labor carried only risk and no reward.

We also note that under cost of service regulation, this commission rarely systematically measured or assessed service quality. Indeed, it was not until 1973 that the Commission first issued a General Order pertaining to service quality for telecommunications.[270] In addition, our review suggests that in the

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[269] Verizon Opening/Service Quality at 4.

[270] D.80082 (73 CPUC 426)

pre-NRF period, the Commission reviewed service quality only intermittently -- in 1976, the Commission ordered Pacific to upgrade its service to curtail and reduce an increasing backlog of held service orders.[271] In 1980, the Commission found that GTE California (now "Verizon") failed to meet GO 133 service quality standards, and reduced its return on equity by 0.5% until it met standards.[272]

The lack of a systematic approach to service quality in the pre-NRF period has complicated our current assessment of the effects of the introduction of NRF on the service quality of Pacific and Verizon. In particular, the lack of systematic data for the period preceding the adoption of NRF in this proceeding has prevented us for making a simple comparison of pre and post NRF changes in the service quality measures.[273]

In summary, we note that rate of return regulation, as practiced in California, contained little systematic measurement of service quality before 1973 and only intermittent examination of service quality before the adoption of NRF. Moreover, rate of return regulation permitted shareholders to obtain all benefits from reductions in expenses. Thus, historic rate of return regulation provided few economic or regulatory incentives to systematically improve service quality.

Under NRF, the incentives were somewhat different. First, with the implementation of NRF regulation, the Commission adopted a systematic

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[271] D.86593, 80 CPUC 599.

[272] D.92366, 4 CPUC 2nd 428, at 535.

[273] As noted previously, General Order 133 was added in 1973, D.80082 (73 CPUC, at 426). It was subsequently revised in 1983, D.83-11-062 (13 CPUC 2nd, at 220). It obtained its current form in 1992, D.92-05-056 (44 CPUC 2nd, at 437).

program for measuring and reviewing the quality of service offered by a telecommunications company. In 1994, as part of its triennial NRF review for Pacific and Verizon, the Commission examined the quality of telephone service under the NRF.[274] A comparison of the information reviewed in this proceeding and this decision makes clear that the Commission's reviews of service quality measurement under NRF far exceed all past reviews. Thus, we conclude that under NRF, regulation began to systematically examine service quality and provide regulatory incentives to promote service quality.

In addition to a new focus on examining service quality systematically and at periodic intervals, NRF also changed the incentives that utilities faced concerning expenditures on service quality. Instead of keeping 100% of all reductions in expenditures between rate cases, additional earnings were filtered through an elaborate sharing mechanism, with ratepayers receiving a share of the benefits arising from reductions in expenditures.[275] Over time, however, the Commission eliminated sharing, and the incentives began to approximate those of rate of return regulation.

On the other hand, we must note that the periodic NRF reviews, unlike general rate cases, did not alter rates based on cost savings or capital expenditures. Thus, shareholders could realize the benefits from cost savings for a longer time than the typical three-year period between general rate cases.

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[274] D.94-06-011, 55 CPUC 2nd 1.

[275] Sharing of earnings between ratepayers and shareholders was subsequently eliminated.

In addition, with the eventual opening of markets to competition by other local carriers and wireless service, telecommunications customers had the ability to obtain telecommunications services from alternative carriers and from alternative technologies. Although this change was not a part of NRF, consumer choice is as much a part of the modern telecommunications market place as price cap regulation.

In summary, the implementation of NRF brought the first systematic and periodic reviews of the quality of service offered by telecommunications utilities. On the other hand, the economic incentives to reduce expenses remained largely unchanged from those offered under cost of service regulation. Finally, independent of NRF, changes in telecommunications technology and the opening of local markets gave consumers choices for the first time.

Finally, a theoretical analysis of incentives must take a back seat to our empirical results. As noted above, our examination of trends in service quality under NRF provided substantial evidence that service quality has improved.

C. Effect of Competition on Service Quality – Positions of Parties

The parties express only nuanced disagreement about the effects of competition on service quality.

TURN notes that even assuming, *arguendo*, that competition is present in some of Pacific's markets – for example, in the California DSL market – there is no guarantee that service quality will be good. "The extant competitive pressures were not sufficient to force Pacific and its affiliate Advanced Services, Inc. ('ASI') to provide high quality Digital Subscriber Line ('DSL') service to the

thousands of Californians who experienced the billing problems that led to the settlement agreement in C.02-01-007."[276]

For Verizon, TURN disputes any notion that competition necessarily improves service quality: "Their [Pacific and Verizon's] theoretical argument, such as it is, rests on the thin air of hypothetical 'competition.'"[277]

Pacific's witness Hauser notes that "customers care about both service and price."[278] He then proceeds to point out that Southwest Airlines has successfully competed in the air transport market with a low-quality, low-frill, but low-priced marketing strategy. Pacific claims that, "as competition increases, this incentive [to maintain service quality which does not adversely affect the demand for Pacific's competitive products] becomes 'even more important.'"[279] Thus, we note that Pacific's position is not a blanket argument that competition supports service quality.

D. Competition and Service Quality - Discussion

The positions of TURN and Pacific are consistent with our own Commission decision. As we observed in our recent Service Quality OIR:

> It has now been over four years since we issued R.98-06-029 and nearly seven years since local exchange competition was authorized. We have concerns that our policies in pursuit of increased competition are insufficient to ensure high quality

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[276] *Id.* at 10, citing Exh. 2B:506 at 10-11 & Exh. TLM-R3 (Murray Reply Testimony).

[277] TURN Reply/Service Quality at 8.

[278] Ex. 2B-354 (Revised Direct Testimony of John Hauser), p. 8.

[279] Pacific Reply/Service Quality at 8 (citation omitted).

> telephone service for all telephone subscribers, and especially for residential and small business customers.[280]

Thus, the key to determining how NRF regulation affects service quality is to look at and measure the performance of Pacific and Verizon, as we have done in this proceeding and to assess how customers perceive the quality of service, as we have done in the numerous surveys reviewed in this proceeding. As noted in our empirical sections above, our general conclusion is that Verizon has accumulated an across-the-board record of high service quality and strong customer satisfaction, while Pacific has a record of high service quality with several areas of weakness, but strong customer satisfaction. As a result, we find no evidence that NRF has had any adverse impact on service quality, and substantial evidence that under NRF California companies have achieved a record of service quality that exceeds that of comparable utilities.

Even if parties believed that competition requires high quality service (which they do not), there remains a factual question over whether there is adequate competition in the local service market to create incentives to improve service quality. In our recent decision allowing Pacific into the long distance market, we found that competition in this market is less than robust: "Local telephone competition in California exists in the technical and quantitative data; but it has yet to find its way into the residences of the majority of California's ratepayers."[281]

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[280] R.02-12-004, *mimeo.*, at 9.

[281] D.02-09-050, *mimeo.*, at 263, available at http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/19433.doc.

Footnote continued on next page

We note, however, that NRF introduced a regulatory regime to measure and review periodically the quality of service provided by Pacific and Verizon. Thus, NRF does not rely on the false assumption that competitive markets always produce high service quality, or the equally false assumption that local telecommunications markets are fully competitive. Instead, NRF created a series of regulatory and organizational incentives by increasing the attention given to measuring and reviewing the service quality records produced by Pacific and Verizon. We expect the parties to present recommendations in Phase 3B of this proceeding concerning how to build on the record of high service quality produced under NRF and to improve on those areas of weakness in service quality.

IX. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311(d) of the Public Utilities Code and Rule 77.1 of the Rules of Practice and Procedure.

X. Assignment of Proceeding

Susan P. Kennedy is the Assigned Commissioner and Sarah R. Thomas is the assigned ALJ in this phase of this proceeding.

Findings of Fact

1. The Order Instituting Rulemaking for this proceeding called for an examination of the service quality of Pacific and Verizon in this phase of the proceeding.

2. The Order Instituting Rulemaking for this proceeding asked us to assess how the quality of service fared under the New Regulatory Framework (NRF).

3. Substantial methodological difficulties arise in the assessment of service quality because there is no record of service quality in the period preceding the adoptionof NRF and because we lack a control group of utilities that did not change regulation during this period.

4. More typical methodological obstacles arise because companies often define or measure a particular service quality attribute differently.

5. With the passage of time, the activities of utilities change, and those changes affect what is measured in particular service quality attribute. These changes can arise from corporate reorganizations, which move certain telecommunications activities to subsidiaries not subject to regulation, or from changes in a company's sales, which affect the distribution of activities included in a particular measure of service quality.

6. General Order (GO) 133-B defines specific measures associated with the quality of telecommunications services and set standards for all but one.

7. The Federal Communication Commission's (FCC) ARMIS measures permit the comparison of utility performance against a reference group and the comparison of Pacific and Verizon with each other.

8. Following certain mergers, the FCC began measuring additional service attributes in a series known as "MCOT" measures.

9. Direct measures of utility performance do not necessarily indicate how consumers value specific service attributes.

10. Survey data that directly asks customers their view of service quality is a valuable means of acquiring insight concerning customer views.

11. Pacific has presented results from its ARMIS 43-06 survey, its NRF monitoring report, surveys conducted by IDC and a survey by JD Power.

12. Verizon has presented results from its ARMIS 43-06 survey, and surveys it conducts as part of its customer service operations.

13. Complaints filed at this Commission also offer a source of information on customer experiences.

14. Through GO 133-B, the Commission requires utilities to provide data on seven different measures and has established performance standards for six.

15. Under GO 133-B, the utilities report to the Commission the requests for primary telephone service delayed over 30 days due to lack of utility plant. There is no performance standard for this measure.

16. Under GO 133-B, utilities report to the Commission the percentage of installation line energizing commitments met. The performance standard for this measure is that a utility should meet 95% of its installation line energizing commitments.

17. Under GO 133-B, utilities report to the Commission the number of initial trouble reports relating to dissatisfaction with telephone company-provided equipment and/or service. The performance standards adopted vary with the size of the end office. For end offices with more than 3000 lines, the standard is 6 or fewer trouble reports for 100 lines.

18. Under GO 133-B, utilities report the percentage of toll and operator assistance calls answered within 10 seconds. The performance standard is that 85% of all calls should be answered within 10 seconds.

19. Under GO 133-B, utilities report the percentage of directory assistance calls answered within 12 seconds. The performance standard for this measure is that the utility must answer 85% of these calls within 12 seconds.

20. Under GO 133-B, utilities report to the Commission the percentage of calls reporting trouble that are answered within 20 seconds. This is known as "Trouble Report Answering Time (TRSAT)." The performance standard for this measure is that the utility must answer 80% of these calls within 20 seconds.

21. Under GO 133-B, utilities report to the Commission the percentage of calls to the business office that are answered within 20 seconds. This is known as "Business Office Answering Time (BOAT)." The performance standard for this measure is that the utility must answer 80% of these calls within 20 seconds.

22. Pacific defines as "primary service orders" those containing to the first line into a house. Verizon defines as "primary service orders" the first order for any line.

23. GO 133-B fails to define "primary service" in an unambiguous way.

24. R.02-12-004 is the appropriate forum for resolving how to define "primary service" in an unambiguous way.

25. GO 133-B fails to address the amount of time that a customer spends dealing with "Automated Response Units (ARU)" and neither Verizon nor Pacific consistently track this time.

26. Pacific stated that the time its residence customers spend in its ARU system ranges from a low of 50 seconds to a high of 300 seconds.

27. GO 133-B's failure to address the use of ARUs reflects changes in technology since the Commission adopted the standard, and this technology gap should be closed.

28. GO 133-B fails to track the number of calls blocked by busy customer service lines or the number of calls abandoned by customers.

29. Pacific measures the number of primary service held orders in a way that is inconsistent with GO 133-B's intention to have any order older than 30 days

reported to the Commission. Pacific counts orders held over 30 days only once a month.

30. Pacific's "primary service held orders" shows significant improvement during the NRF period. However, Pacific's definition of primary service and erroneous measurement of orders held over 30 days prevent us from making a finding.

31. Verizon's "primary service held orders" shows great volatility over the period 1990 to 2001. Statistical analysis suggests improvement over the NRF period, but the trend of improvement is not statistically significant.

32. Pacific has exceeded the standard for "installation line-energizing commitments met" throughout the entire NRF study period. We find no significant time trend during the period under NRF regulation.

33. Verizon has exceeded the GO 133-B standard for "installation line-energizing commitments met" throughout the entire NRF study period. We find no significant time trend during the period under NRF regulation.

34. Pacific has consistently exceeded the GO 133-B standard for "number of trouble reports per 100 lines" throughout the entire NRF study period. We find no significant time trend during the period under NRF regulation.

35. Verizon has consistently exceeded the GO 133-B standard for "number of trouble reports per 100 lines" throughout the entire NRF study period. A statistical test shows that Verizon has significantly improved its performance during the period under NRF regulation.

36. Pacific has consistently exceeded the GO 133-B standard for "operator assistance answer time, yearly average" throughout the entire NRF study period. A statistical test shows no statistically significant time trend during the period under NRF regulation.

37. Verizon has consistently exceeded the GO 133-B standard "operator assistance answer time, yearly average" throughout the entire NRF study period. A statistical test shows no statistically significant time trend during the period under NRF regulation.

38. Pacific has consistently exceeded the GO 133-B standard of 12 seconds for "directory assistance answer time, yearly average" from 1993 to 2001. A statistical test shows no statistically significant time trend during the period under NRF regulation.

39. Verizon has consistently exceeded the GO 133-B standard of 12 seconds for "directory assistance answer time, yearly average" from 1993 to 2001. A statistical test shows no statistically significant time trend during the period under NRF regulation.

40. Pacific failed to meet the GO 133-B standard of answering 80% of all "trouble service calls answer time, yearly average" (TRSAT) within 20 seconds from 1991 to 1998, but has met the standard in 1999-2001.

41. Verizon's trouble service report answer time (TRSAT) failed to meet the minimum standard of 80% of trouble calls answered within 20 seconds in 1993 and in 1995. Verizon met the standard in 1994 and 1996-2001. Verizon's performance shows statistically significant improvement over the NRF period.

42. GO 133-B requires the exclusion of billing inquiries from its measure of business office answer time (BOAT).

43. Pacific included billing inquiries in its measure of business office answer time (BOAT) from 1992 until February 1999, but then excluded them. This complicates interpretation of this measure.

44. Pacific failed to meet the GO 133-B standard of answering 80% of calls to its business office within 20 seconds (excluding billing calls) in 1993, 1995, and

1996. Pacific met the standard in 1992, 1994, 1997-2001. Pacific shows a statistically significant improvement over the NRF period. Unfortunately, changes in policy over the inclusion of billing inquiries make it difficult to interpret this improvement.

45. GO 133-B fails to require measurement of the time taken to answer an inquiry concerning billing.

46. Evidence in this record show that Pacific's response to billing inquiries is particularly slow, with only 50% of billing calls now answered within 20 seconds.

47. Despite GO 133-B's prohibition, Verizon included billing inquiries in its measurement of business office answer time (BOAT).

48. Verizon met the BOAT performance standard in 1994, 1995, and 1998-2001. Verizon failed to meet this performance standard in 1993, 1996 and 1997. Verizon shows a statistically significant improvement over the NRF period.

49. During the NRF period, Pacific's performance showed statistically significant on business office answer time (although this measure has serious data problems).

50. During the NRF period, Pacific has shown no statistically significant change in the percentage of line-energizing installation commitments met, the number of customer trouble reports per 100 lines, the yearly average of toll operator assistance answer time, the yearly average of directory assistance answer time, and the trouble service answer time.

51. During the NRF period, Pacific did not show a statistically significant decrease on any GO 133-B measure of service quality.

52. During the NRF period, Verizon's performance showed statistically significant improvement on the number of customer trouble reports, trouble service answer time, and business office answer time.

53. During the NRF period, Verizon has shown no statistically significant change on the held orders, the percentage of line-energizing installation commitments met, the yearly average of toll operator assistance time, and the yearly average of directory assistance time.

54. During the NRF period, Verizon did not show a statistically significant decrease on any GO 133-B measure of service quality.

55. We find no evidence from Pacific's and Verizon's performance that supports the hypothesis that NRF regulation decreases the quality of customer service.

56. The Automated Reporting Management Information System (ARMIS) data stem from FCC Common Carrier Docket No. 87-313, which implemented service quality reporting requirements for local exchange carriers such as Pacific and Verizon.

57. The FCC requires the carriers to make reports on several aspects of service quality, and the results for relevant years appear in the record of this proceeding.

58. The ARMIS 43-05 report contains service quality performance measures which track, among other things, whether Pacific or Verizon meet their installation commitments for residential and business customers, trouble reports and repair intervals (*e.g.,* both initial and repeat trouble reports, and the time required to dispatch and complete repairs in response to trouble reports), and switch downtime incidents.

59. The ARMIS 43-06 report tracks customer perceptions of Pacific's and Verizon's service quality.

60. ORA challenged the accuracy of Pacific's reports to the FCC.

61. Through the course of the proceeding, it became apparent that mismatches in data between FCC and data provided to ORA arose from differences in the data provided to ORA and the data contained in final reports provided to the FCC.

62. ORA failed to show that Pacific's historic data on service installation is inaccurate.

63. There is no need to conduct a data audit.

64. The resolution of complicated data issues requires professional cooperation, not adversarial interaction.

65. Adversarial interaction concerning issues arising from data collection invariably waste Commission time and hinders the development of a clear evidentiary record.

66. ORA did not provide sufficient evidence to permit us to conclude that Pacific is closing installation orders prematurely.

67. ORA argued that the presence of "duplicate" records among the data Pacific provided to ORA indicates that there are errors in Pacific's data.

68. ORA also argued that Pacific should include duplicate records in Pacific's calculation of its installation intervals.

69. There is no basis for finding that duplicate records among Pacific's data are erroneous.

70. ORA alleged that certain data were suspicious because ORA believed that no order for services could flow though Pacific's systems without a commitment date.

71. Pacific pointed out that some orders do not require a commitment date when a new resident takes over the phone service of an existing customer.

72. There is no basis for ORA's claim that the "anomalous" data are suspicious.

73. ORA raised issues concerning Verizon's data and Verizon successfully responded to each of them.

74. It is reasonable to compare the performance of Pacific and Verizon on ARMIS measures against the average performance of a reference group of similar large telecommunications utilities.

75. The ARMIS measure, "initial trouble reports," when normalized on the number of access lines in a utility, permits a comparison among carriers and over time.

76. For residential access lines, a visual inspection shows that Pacific's initial trouble reports per 100 access lines is better than that of the reference group and suggests that its performance is improving over time.

77. Statistical analysis shows that Pacific 's average residential initial trouble reports per access line is significantly better than the performance of the reference group, when statistical significance is assessed at the 1% level.

78. Statistical analysis shows that the improvement in Pacific's average initial residential trouble reports per access line is not statistically significant.

79. For business lines, visual inspection indicates that that Pacific's average number of initial trouble reports per access line is better than that of the reference group and has improved during the NRF period.

80. For business lines, Pacific's average number of initial trouble reports per access line has significantly improved over the NRF period when significance is assessed at the 1% level.

81. For business lines, Pacific's average number of initial trouble reports per access line is significantly better than the performance of the reference group of utilities when significance is assessed at the 1% level.

82. For residential lines, Verizon's average number of initial trouble reports has decreased (and improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 5% level.

83. For business lines, Verizon's average number of initial trouble reports has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level.

84. For residential lines, Verizon's average number of initial trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

85. For business lines, Verizon's average number of initial trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

86. For residential lines, Verizon's average number of initial trouble reports is less than (and therefore better than) that of Pacific, and that difference is statistically significant when significance is assessed at the 1% level.

87. For business lines, Verizon's average number of initial trouble reports is more (and therefore worse) than that of Pacific, but that difference is not statistically significant.

88. Both Pacific and Verizon show excellent performance on both the business and residential measures of initial trouble reports per 100 access lines.

89. For residential lines, Pacific's average number of repeat trouble reports has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

90. For business lines, Pacific's average number of repeat trouble reports has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level.

91. For residential lines, Pacific's average number of repeat trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

92. For business lines, Pacific's average number of repeat trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

93. For residential lines, Verizon's average number of repeat trouble reports has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level.

94. For business lines, Verizon's average number of repeat trouble reports has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 5% level.

95. For residential lines, Verizon's average number of repeat trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

96. For business lines, Verizon's average number of repeat trouble reports is less than (and therefore better than) the performance of the reference group, and that differences is statistically significant when significance is assessed at the 1% level.

97. For residential lines, Verizon's average number of repeat trouble reports is less than (and therefore better than) Pacific's, and that difference is significant when significance is assessed at the 1% level of significance.

98. For business lines, Verizon's average number of repeat trouble reports is not significantly different from that of Pacific, when significance is assessed at either the 1% or 5% level.

99. Both Pacific and Verizon show excellent performance on both the business and residential measures of repeat trouble reports per 100 access lines.

100. For residential lines, Pacific's average number of initial out-of-service trouble reports has improved since 1997. The coefficient of change for the entire NRF period is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

101. For business lines, Pacific's average number of initial out-of-service trouble reports has remained largely unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% or 5% level.

102. For residential lines, Pacific's average number of initial out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

103. For business lines, Pacific's average number of initial out-of-service trouble reports is less than (and therefore better than) the performance of the

reference group, and that differences is statistically significant when significance is assessed at the 1% level.

104. For residential lines, Verizon's average number of initial out-of-service trouble reports has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

105. For business lines, Verizon's average number of initial out-of-service trouble reports has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level.

106. For residential lines, Verizon's average number of initial out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

107. For business lines, Verizon's average number of initial out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

108. For residential lines, Verizon's average number of initial out-of-service trouble reports is less than (and therefore better than) Pacific's, and that difference is significant when significance is assessed at the 1% level of significance.

109. For business lines, Verizon's average number of initial out-of-service trouble reports is less than (and therefore better than) Pacific's, but that difference is not statistically significant when significance is assessed at the 1% or 5% level of significance.

110. Both Pacific and Verizon show excellent performance on both the business and residential measures of initial out-of-service trouble reports per 100 access lines.

111. For residential lines, Pacific's average number of repeat out-of-service trouble reports has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

112. For business lines, Pacific's average number of repeat out-of-service trouble reports has decreased during the NRF period. The coefficient of change is statistically different from zero when significance is assessed at 5% level.

113. For residential lines, Pacific's average number of repeat out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

114. For business lines, Pacific's average number of repeat out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that differences is statistically significant when significance is assessed at the 1% level.

115. For residential lines, Verizon's average number of repeat out-of-service trouble reports has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

116. For business lines, Verizon's average number of repeat out-of-service trouble reports has decreased (and therefore improved) during the NRF period, but that decrease is not statistically significant when significance is assessed at the 1% or 5% level.

117. For residential lines, Verizon's average number of repeat out-of-service trouble reports is less than (and therefore better than) the average performance of the reference group, and that differences is statistically significant when significance is assessed at the 1% level.

118. For business lines, Verizon's average number of repeat out-of-service trouble reports is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

119. For residential lines, Verizon's average number of repeat out-of-service trouble reports is less than (and therefore better than) Pacific's, and that difference is significant when significance is assessed at the 1% level.

120. For business lines, Verizon's average number of repeat out-of-service trouble reports is not significantly better than that of Pacific when significance is assessed at the 1% or 5% level.

121. Both Pacific and Verizon show excellent performance on both the business and residential measures of repeat out-of-service trouble reports per 100 access lines.

122. Pacific and Verizon had insufficient observations for the number of subsequent initial trouble reports and subsequent repeat trouble reports to permit a statistical finding.

123. For residential lines, Pacific's average number of initial "all other" trouble reports per 100 lines has increased (and therefore worsened) during the NRF period. The coefficient of change is statistically different from zero when significance is assessed at the 5% level.

124. For business lines, Pacific's average number of initial "all other" trouble reports per 100 lines has decreased during the NRF period. The coefficient of

change is statistically different from zero when significance is assessed at the 1% level.

125. For residential lines, Pacific's average number of initial "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

126. For business lines, Pacific's average number of initial "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

127. For residential lines, visual inspection shows that Verizon's initial "all other" trouble reports is better than that of the reference group. For business lines, visual inspection shows that Verizon's performance is worse than that of the reference group.

128. For residential lines, Verizon's average number of initial "all other" trouble reports per 100 lines has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

129. For business lines, Verizon's average number of initial "all other" trouble reports per 100 lines has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level.

130. For residential lines, Verizon's average number of initial "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of the reference group, and that differences is statistically significant when significance is assessed at the 1% level.

131. For business lines, Verizon's average number of initial "all other" trouble reports per 100 lines is not significantly different than the performance of the reference group when significance is assessed at the 1% level or 5% level.

132. For residential lines, Verizon's average number of initial "all other" trouble reports per 100 lines is not significantly different than Pacific's when significance is assessed at the 1% or 5% level of significance.

133. For business lines, Verizon's average number of initial "all other" trouble reports per 100 lines is worse than that of Pacific when significance is assessed at the 1%.

134. Both Pacific and Verizon show excellent performance on the business measure of initial "all other" trouble reports per 100 lines.

135. For residential lines, Pacific's average number of repeat "all other" trouble reports per 100 lines has increased during the NRF period. The coefficient of change is statistically different from zero when significance is assessed at the 5% level.

136. For business lines, Pacific's average number of repeat "all other" trouble reports per 100 lines has decreased (and therefore improved) during the NRF period. The coefficient of change is statistically different from zero when significance is assessed at the 1% level.

137. For residential lines, Pacific's average number of repeat "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

138. For business lines, Pacific's average number of repeat "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of

the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

139. For residential and business lines, visual inspection shows that Verizon's repeat "all other" trouble reports is better than that of the reference group.

140. Verizon's average number of repeat "all other" trouble reports per 100 lines has remained virtually unchanged during the NRF period. The coefficient of change is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

141. For business lines, Verizon's average number of repeat "all other" trouble reports per 100 lines has decreased (and therefore improved) during the NRF period, and that decrease is statistically significant when significance is assessed at the 1% level of significance.

142. For residential lines, Verizon's average number of repeat "all other" trouble reports per 100 lines is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

143. For business lines, Verizon's average number of repeat "all other" trouble reports per 100 lines is not significantly different than the performance of the reference group when significance is assessed at the 1% level or 5% level.

144. For residential lines, Verizon's average number of repeat "all other" trouble reports per 100 lines is better than Pacific's when significance is assessed at the 1% level of significance.

145. For business lines, Verizon's average number of repeat "all other" trouble reports per 100 lines is not significantly different than that of Pacific when significance is assessed at the 1% or 5% level.

146. Both Pacific and Verizon show excellent performance on the business measure of repeat "all other" trouble reports per 100 lines. For residential lines, Verizon also showed good performance on the repeat "all other" trouble reports per 100 lines.

147. Visual inspection indications that Pacific's residential initial out-of-service interval had considerable fluctuations over the NRF period, but we find no observable trend in business initial out of service intervals.

148. For residential lines, Pacific's initial out-of-service repair interval (in hours) has increased (and thereby worsened) during the NRF period. The coefficient of change, however, is not statistically different from zero when significance is assessed at the 1% or 5% level.

149. For business lines, Pacific's average number of initial out-of-service repair interval (in hours) has increased (and therefore worsened) during the NRF period. The coefficient of change, however, is not statistically different from zero when significance is assessed at the 1% or 5% level.

150. For residential lines, Pacific's initial out-of-service repair interval (in hours) is greater than (and therefore worse than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

151. For business lines, Pacific's average number of initial out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group, but that difference is not statistically significant when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

152. For residential and business lines, visual inspection shows that Verizon's initial out-of-service interval is better than that of the reference group.

153. For residential lines, Verizon's initial out-of-service repair interval (in hours) has deteriorated slightly during the NRF period. The coefficient of change, however, is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

154. For business lines, Verizon's initial out-of-service repair interval (in hours) has decreased (and therefore improved) slightly during the NRF period, but that decrease is not statistically significant when significance is assessed at the 1% or 5% level of significance.

155. For residential lines, Verizon's initial out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

156. For business lines, Verizon's initial out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group when significance is assessed at the 1% level.

157. For residential lines, Verizon's average number of initial out-of-service repair interval (in hours) is better than Pacific's when significance is assessed at the 1% level of significance.

158. For business lines, Verizon's initial out-of-service repair interval (in hours) is significantly better than that of Pacific when significance is assessed at the 1% level.

159. Since Pacific and Verizon were both subject to NRF regulation during this period, and since Verizon's performance is better than that of Pacific and that of the reference group, it is not reasonable to attribute Pacific's poor performance to NRF regulation.

160. Verizon shows excellent performance on the residential and business measure of initial out-of-service repair interval (in hours).

161. Since Pacific's initial out-of-service repair interval for residential service is worse than that of the reference group and its business service is indistinguishable from that of the reference group, we conclude that Pacific's performance in this area is below average.

162. Visual inspection indications that Pacific's residential repeat out-of-service interval appeared to both rise and fall over the NRF period, but we find no observable trend in residential repeat out of service intervals.

163. For residential lines, Pacific's repeat out-of-service repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

164. For business lines, Pacific's average number of repeat out-of-service repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

165. For residential lines, Pacific's repeat out-of-service repair interval (in hours) is greater than (and therefore worse than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

166. For business lines, Pacific's average number of repeat out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group, but that difference is not statistically significant when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

167. For residential and business lines, visual inspection shows that Verizon's repeat out-of-service interval is better than that of the reference group and relatively stable over the entire NRF period.

168. For residential lines, Verizon's repeat out-of-service repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at either the 1% level or 5% level.

169. For business lines, Verizon's repeat out-of-service repair interval (in hours) a coefficient of change that is not statistically significant when significance is assessed at the 1% or 5% level.

170. For residential lines, Verizon's repeat out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

171. For business lines, Verizon's repeat out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group when significance is assessed at the 1% level.

172. For residential lines, Verizon's average number of repeat out-of-service repair interval (in hours) is better than Pacific's when significance is assessed at the 1% level of significance.

173. For business lines, Verizon's repeat out-of-service repair interval (in hours) is significantly better than that of Pacific when significance is assessed at the 1% level.

174. Since Pacific and Verizon were both subject to NRF regulation during this period, and since Verizon's performance is better than that of Pacific and that of the reference group, it is not reasonable to attribute Pacific's poorer performance in residential repeat out of service interval to NRF regulation.

175. Verizon shows excellent performance on the residential and business measure of repeat out-of-service repair interval (in hours).

176. Since Pacific's repeat out-of-service repair interval for residential service is worse than that of the reference group and its business service is indistinguishable from that of the reference group, we conclude that Pacific's performance in this area is below average.

177. Visual inspection indicates that Pacific's residential initial "all-other" repair interval appeared to both rise and fall over the NRF period.

178. Visual inspection indicates that Pacific's business initial "all-other" repair interval appears more stable, comparable to the reference group, and improving over the NRF period.

179. For residential lines, Pacific's initial "all-other" out-of-service repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

180. For business lines, Pacific's average number of initial "all-other" repair interval (in hours) has a coefficient of change that indicates an improving trend when significance is assessed at the 5% level.

181. For residential lines, Pacific's initial "all-other" repair interval (in hours) is greater than (and therefore worse than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 5% level.

182. For business lines, Pacific's average number of initial "all-other" repair interval (in hours) is not statistically different from that of the reference group when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

183. For residential and business lines, visual inspection shows that Verizon's initial "all-other" out-of-service interval is better than that of the reference group and relatively stable over the entire NRF period.

184. Verizon's initial "all-other" out-of-service repair interval (in hours) has a coefficient of change that indicates a deterioration of service when significance is assessed at the 1% level.

185. For business lines, Verizon's initial "all-other" repair interval (in hours) a coefficient of change that is not statistically significant when significance is assessed at the 1% or 5% level.

186. For residential lines, Verizon's initial "all-other" repair interval (in hours) is less than (and therefore better than) the performance of the reference group, and the difference is statistically significant when significance is assessed at the 1% level.

187. For business lines, Verizon's initial "all-other" out-of-service repair interval (in hours) is less than (and therefore better than) the performance of the reference group when significance is assessed at the 1% level.

188. For residential lines, Verizon's average number of initial "all-other" repair interval (in hours) is better than Pacific's when significance is assessed at the 1% level of significance.

189. For business lines, Verizon's initial "all-other" repair interval (in hours) is significantly better than that of Pacific when significance is assessed at the 1% level.

190. Since Pacific and Verizon were both subject to NRF regulation during this period, and since Verizon's performance is better than that of Pacific and that of the reference group, it is not reasonable to attribute Pacific's poorer performance in residential initial "all-other" repair interval to NRF regulation.

191. Verizon shows excellent performance on the residential and business measure of initial "all-other" repair interval (in hours).

192. Since Pacific's initial "all-other" out-of-service repair interval for residential service is worse than that of the reference group and its business service is indistinguishable from that of the reference group, we conclude that Pacific's performance in this area is below average.

193. Visual inspection indicates that Pacific's residential repeat "all-other" repair interval fluctuates over the NRF period.

194. Visual inspection indicates that Pacific's business repeat "all-other" repair interval appears more stable, comparable to the reference group, and improving over the NRF period.

195. For residential lines, Pacific's repeat "all-other" repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

196. For business lines, Pacific's average number of repeat "all-other" repair interval (in hours) has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

197. For residential lines, Pacific's repeat "all-other" repair interval (in hours) is greater than (and therefore worse than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

198. For business lines, Pacific's average number of repeat "all-other" repair interval (in hours) is not statistically different from that of the reference group when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

199. Pacific shows a disturbing increase in the number of repeat problems within 24-hours of the initial repair. Such a pattern is consistent with not properly correcting the problem the first time.

200. Visual inspection shows that Verizon's repeat "all-other" repair interval is better than that of the reference group and relatively stable over the entire NRF period for both residential and business customers.

201. For residential lines, Verizon's repeat "all-other" repair interval (in hours) has a coefficient of change that indicates a deterioration of service when significance is assessed at the 1% level.

202. For business lines, Verizon's repeat "all-other" repair interval (in hours) has a coefficient of change that is not statistically significant when significance is assessed at the 1% or 5% level.

203. For residential lines, Verizon's repeat "all-other" repair interval (in hours) is less than (and therefore better than) the performance of the reference group, and that difference is statistically significant when significance is assessed at the 1% level.

204. For business lines, Verizon's repeat "all-other" repair interval (in hours) is less than (and therefore better than) the performance of the reference group when significance is assessed at the 1% level.

205. For residential lines, Verizon's average number of repeat "all-other" repair interval (in hours) is better than Pacific's when significance is assessed at the 1% level of significance.

206. For business lines, Verizon's repeat "all-other" repair interval (in hours) is significantly better than that of Pacific when significance is assessed at the 1% level.

207. Since Pacific and Verizon were both subject to NRF regulation during this period, and since Verizon's performance is better than that of Pacific and that of the reference group, it is not reasonable to attribute Pacific's poorer performance in residential repeat "all-other" out of service interval to NRF regulation.

208. Verizon shows excellent performance on the business measure of repeat "all-other" repair interval (in hours).

209. Since Pacific's repeat "all-other" repair interval for residential service is worse than that of the reference group and its business service is indistinguishable from that of the reference group, we conclude that Pacific's performance in this area has been below average. Recent residential service measures have matched the reference group, and if they prove stable, Pacific's performance will be average.

210. Visual inspection indicates that Pacific's residential and business average installation interval was consistent and improving over the NRF period.

211. For average installation interval, our reference group shows a declining trend over the NRF period.

212. Utilities include vertical services, which are easy to install, in their installation interval data. It is highly likely that these orders are responsible for the declining trend for all utilities.

213. For residential lines, Pacific's average installation interval has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

214. For business lines, Pacific's average number of average installation interval has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

215. For residential lines, Pacific's average installation interval is not statistically different than the performance of the reference group when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

216. For business lines, Pacific's average installation interval is not statistically different from that of the reference group when significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

217. Visual inspection shows that Verizon's average installation interval was unstable over the entire NRF period for both residential and business customers.

218. Verizon's average installation interval has a coefficient of change that is not statistically significant at either the 1% or 5% level.

219. For business lines, Verizon's average installation interval has a coefficient of change that is not statistically significant when significance is assessed at the 1% or 5% level.

220. For residential lines, Verizon's average installation interval is not statistically different from that of the reference group when significance is assessed at the 1% or 5% level.

221. For business lines, Verizon's average installation interval is not statistically different from that of the reference group when significance is assessed at the 1% or 5% level.

222. For residential lines, Verizon's average number of average installation interval is not significantly different from that of Pacific when significance is assessed at the 1% or 5% level of significance.

223. For business lines, Verizon's average number of average installation interval is not significantly different from that of Pacific when significance is assessed at the 1% or 5% level of significance.

224. Verizon shows performance on the residential and business measure of average installation interval consistent with that of the reference group.

225. Pacific's shows performance on the residential and business measure of average installation interval consistent with that of the reference group.

226. Visual inspection indicates that Pacific's switch downtime was consistent and excellent over the NRF period.

227. Pacific's average switch downtime has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

228. Pacific's average switch downtime is significantly better than the group of reference utilities when significance is assessed at the 1% level.

229. Visual inspection of the graph of switch downtime suggests that Verizon's service has deteriorated over the NRF period and that its performance is not as good as the reference group.

230. Verizon's average switch downtime has increased (and therefore worsened) over the NRF period, and it has a coefficient of change that is statistically significant at the 1% level.

231. Verizon's average switch downtime is worse than that of the reference group, but the difference is not statistically significant at 1% or 5% level.

232. Verizon's average switch downtime is worse than that of Pacific when significance is assessed at the 5% level.

233. Since Pacific and Verizon show different patterns of switch downtime and both were subject to the same NRF regulation, it is not reasonable to attribute Verizon's poorer performance to NRF regulation.

234. Pacific had only six observations for the number of switches down per switch. The statistical analysis shows that Pacific does not exhibit a statistically significant trend in the number of switches down per switch while Verizon exhibits a slight improvement in this area.

235. Pacific's performance does not show a statistically significant upward or downward trend in the number of occurrences over two minutes per switch and the percent unscheduled.

236. Pacific exhibited a downward trend for the number of occurrences under two minutes per switch.

237. Verizon has exhibited a downward trend for the number of occurrences under two minutes per switch and an upward trend for the percent unscheduled.

238. Visual inspection indicates that Pacific's residential installation "commitments met" was consistently good from 1991 to 2001, with the exception of 1997, but overall it appears to track the performance of the reference group.

239. For residential lines, Pacific's residential installation "commitments met" has a coefficient of change that is not statistically different from zero when significance is assessed at the 1% or 5% level.

240. For business lines, Pacific's installation "commitments met" has a coefficient of change that shows a worsening of service, statistically significant, when significance is assessed at the 1%.

241. For residential lines, Pacific's installation "commitments met" is not statistically different than the performance of the reference group when

significance is assessed at the 1% level or 5% level. Thus, we cannot statistically distinguish Pacific's performance from that of the reference group.

242. For business lines, Pacific's installation "commitments met" is better than that of the reference group when significance is assessed at the 1% level.

243. Visual inspection shows that Verizon's installation "commitments met" tracks that of the reference group, although in 1999 Verizon shows a marked improvement in business service, and a marked decline in residential service.

244. For residential lines, Verizon's installation "commitments met" has a coefficient of change that is not statistically significant at either the 1% or 5% level.

245. For business lines, Verizon's installation "commitments met" has a coefficient of change that is not statistically significant when significance is assessed at the 1% or 5% level.

246. For residential lines, Verizon's installation "commitments met" is not statistically different from that of the reference group when significance is assessed at the 1% or 5% level.

247. For business lines, Verizon's installation "commitments met" is not statistically different from that of the reference group when significance is assessed at the 1% or 5% level.

248. For residential lines, Verizon's installation "commitments met" is not significantly different from that of Pacific when significance is assessed at the 1% or 5% level of significance.

249. For business lines, Verizon's installation "commitments met" is worse than that of Pacific when significance is assessed at the 1% level of significance.

250. Overall, Pacific's performance on installation "commitments" met is above average, while Verizon's is average.

251. As a condition of SBC's merger with Ameritech, the FCC required additional quarterly measures of state-by-state service quality. Categories of reporting for retail services include installation and maintenance, switch outages, transmission facility outages, service quality-related complaints, and answer time performance.

252. For the period July 1999 to June 2001, Pacific shows negative spikes in California in the following areas: 1) answer time performance (business customers), 2) trouble report rate per 100 lines (especially business customers), 3) percentage of installation orders completed within 5 working days (especially residential customers), and 4) percentage of installation orders delayed over 30 days (business customers).

253. Our statistical analysis of Pacific's MCOT data shows that Pacific's performance exhibits an improving trend in average answer time for residential and business customers, average trouble duration, and the report rate when significance is measured at the 1% level.

254. Pacific's operations appear largely unaffected by the Ameritech merger.

255. Our statistical analysis of Verizon's MCOT data shows that Verizon's performance does not exhibit an improving or deteriorating trend in majority of the measures.

256. Since the period for which we have MCOT data is so short and covers only part of the period subject to our investigation, it does not permit us to draw any conclusion concerning how NRF regulation affected Pacific's performance.

257. The FCC imposed a 36-month reporting requirement as a condition of the 2000 GTE merger with Bell Atlantic that created Verizon.

258. While GO 133-B measures the handling of business office calls, it does not track billing calls even though such calls account for half of the calls to the business office.

259. Verizon showed negative spikes in California on several service quality measures at the following times during the period July 2000-June 2001, as compared to the rest of that period: 1) percentage of dissatisfied customers (with business customers reporting 50% dissatisfaction in November 2000 and residential customers reporting 20% dissatisfaction in March 2001), 2) answer times (with business answer times in the 50-60 second range in September 2000 and in the 40-50 second range in January 2001 – as compared to a GO 133-B standard of 20 seconds); and residential times exceeding 20 seconds in November 2000 [30 seconds] and January 2001 [40 seconds], 3) repair intervals for both residential and business customers spiking in the period January-March 2001, 4) repeat trouble reports spiking for both types of customers in March 2001, and 5) trouble reports per hundred lines spiking in the January-March 2001 time period for residential customers.

260. In spite of these spikes, we have not observed a significant upward or downward trend in Verizon's performance for the following measures: complaints per one million lines (residential and business), the percentage of dissatisfied customers (residential and business), answer times (business), average repair interval (residential and business), the percentage of repeat trouble reports (residential and business), trouble report rates (residential and business), the percentage of orders completed within five working days (residential and business), the percentage of orders delayed over 30 days (business).

261. Verizon's performance shows slight improvement in the percentage of orders delayed over 30 days for the residential lines.

262. Verizon has shown improvement in the answer time performance for residential lines.

263. For Verizon, we conclude that despite a visual spike illustrating a decrease in the quality of service in the January to March 2001 time period, there is no statistically significant indicator of an ongoing decrease in quality.

264. ORA conducted a survey of service quality in 2001 using the same questions as it did in 1995, pursuant to Commission direction.

265. ORA's survey shows that Pacific's service quality declined over time, but a big drop in the response rate in the 2001 ORA survey from that of 1995 limits our ability to draw conclusions from the survey with statistical confidence.

266. The JD Power survey does not measure consumer satisfaction with Pacific's service performance, but provides an overall measure of consumer satisfaction with the company.

267. On the JD Power Survey, Pacific received a score of 110 in 2001 from J.D. Power, where 104 is the industrial average score.

268. On the JD Power Survey, Pacific ranked in the top six out of the sixteen local service providers surveyed.

269. An IDC survey of local exchange carriers found that Pacific's customers are more satisfied than the average local telephone customer for all attributes studied except one. Pacific's customers are the second most overall satisfied for customer service; Pacific's customers are the third most satisfied for voice quality; and Pacific is one of the top three providers in over 85% of the areas measured.

270. In responses on the IDC survey to customer service and voice or service quality, Pacific showed results comparable to other utilities.

271. Market Insights conducts surveys for Pacific every month, 7-10 days following a service event to obtain information about the service interaction. The results of these surveys are reported to the FCC under ARMIS report 43-06 and to the CPUC under P.A. 02-04 in a slightly different format.

272. The Market Insights surveys indicate that Pacific's customers in the 1998-2001 period are three to six percentage points less dissatisfied than the average of the top ten LECs.

273. The Market Insights surveys indicated that Pacific's customers' dissatisfaction rose for only installation services for residential and large business customers and business office services for residential and large business customers between 1998 and 2001. The dissatisfaction declined for all other services and categories. This trend was largely counter that of the reference group of utilities.

274. ORA failed to discuss the survey results reported in P.A. 02-04 and ARMIS 43-06.

275. There is no basis for finding that the dispute over Pacific's P.A. 02-03 reporting requirements arises from anything other than confusion. The next phase of this proceeding offers the appropriate venue for resolving this confusion.

276. ORA's survey of Verizon's customers showed that service has improved since 1991.

277. Verizon's surveys of its customers surveys show that Verizon offers good service quality.

278. Analyzing complaint data provides information on those customers having the worst experiences with telecommunications utilities.

279. Pacific has 25.4 million access lines.

280. Verizon has 6.3 million access lines.

281. Only an extremely small percentage of customers file a complaint at the Commission. In Pacific's worst year, 1997, only 0.02% of lines were affected by a service quality complaint. This is approximately 2 in 10,000 lines.

282. In 1995, Pacific's best year, only 0.006%, or 6 in 100,000 lines were affected by a service quality complaint.

283. In 1998, Verizon's worst year, only 0.08% of lines were affected by a service quality complaint. This is approximately 8 per 10,000 lines.

284. In 1995, Verizon's best year, only 0.0053% of lines, or approximately 5 per 100,000, were affected by a complaint.

285. There have been six formal Commission proceedings finding problems with Pacific's service quality since 1995.

286. There is no evidence that NRF was responsible for the increase in formal complaints against Pacific, and our data indicate a general improvement in Pacific's service quality under most measures.

287. It is likely that the formal proceedings against Pacific result from a greater focus on service quality by the Commission.

288. Verizon does not show an increase in formal complaints, thereby casting doubt that NRF regulation is the cause of an increase in formal complaints.

289. There is no evidence in this proceeding that the deployment of new technologies in the telecommunications network will create classes of technology haves and have-nots.

290. There is not evidence in this proceeding that the deployment of net technologies in the telecommunications network is linked to socio-economic status.

291. In the past, eventually new technologies were ubiquitously employed throughout the public switched telephone network.

292. In the past, the deployment of new technologies has not been linked to socio-economic status.

293. Although during the NRF period Pacific dealt with economic growth and the regulatory requirements of unbundling, we do not consider these factors as legitimate excuses for poor service quality.

294. Pacific's staffing during the NRF period shows decreases followed by increases.

295. Pacific has increased its number of customer-facing staff in the last part of the 1990's.

296. The 1997-98 El Niño season with its substantially increased rainfall led to increases in Pacific's trouble reports.

297. Pacific's rate changes introduced during the NRF period had the approval of the Commission.

298. It is reasonable to continue Pacific's and Verizon's MCOT reporting requirements.

299. Verizon's customer service performance guarantee recompenses customers immediately after that suffer service problems.

300. Verizon provides this service pursuant to tariff, and there is no evidence that Verizon fails to follow its tariff.

301. Verizon's service performance guarantee is a welcome development in telecommunications service delivers.

302. Although Verizon has reduced its number of employees, we find no effect on service quality.

303. No party alleges that Verizon's mergers and structural changes have had an adverse impact on service quality.

304. The incentives affecting service quality under rate of return regulation and those under NRF are very similar. Both permit the shareholders to benefit from all savings that the company can realize, including those savings realized by reducing customer service.

305. Under cost-of-service regulation, this Commission rarely systematically measured or assessed service quality.

306. The Commission first adopted a General Order concerning service quality and setting performance standards in 1973.

307. In the pre-NRF period, the Commission reviewed service quality only intermittently, with major proceedings taking place in 1976 for Pacific and 1980 for Verizon.

308. Since the adoption of NRF in 1989, the Commission has reviewed service quality in 1994 and again this year.

309. The examination of service quality under NRF has been more comprehensive and consistent than that under cost of service regulation.

310. No party to this proceeding claims that competition will ensure service quality in the provision of telecommunications services.

311. The key to determining how NRF regulation affects service quality is to look at and measure the performance of Pacific and Verizon, not arguments from first principles.

312. NRF created a series of regulatory and organizational incentives that increased the attention given to measuring and reviewing the service quality records produced by Pacific and Verizon.

313. Phase 3B of this proceeding will offer an opportunity for parties to suggest how to build on the record of high service quality produced under NRF and to improve on those areas of weakness in service quality.

CONCLUSION OF LAW

1. NRF's impact on service quality was a key concern when we adopted the new framework in 1989.

2. Pursuant to the plan of this proceeding and our previous rulings, we have conducted extensive fact finding on the quality of service in this phase of the proceeding.

3. Although D.89-10-031, the decision establishing the NRF framework, did not institute specific service quality reporting requirements, the Commission subsequently adopted specific monitoring requirements in General Order (GO) 133-B and has periodically and systematically examined service quality.

4. Any changes that we make to NRF should be coordinated with revisions to GO 133-B that result from the rulemaking we recently opened to make such revisions, Rulemaking 02-12-004.

5. GO 133-B defines a held order as "[r]equests for primary (main) telephone service delayed over 30 days for lack of utility plant."

6. Pacific's method of counting held orders fails to comply with GO 133-B.

7. It is reasonable to require Pacific to continue to report the FCC's MCOT results until further notice of the Commission.

8. It is reasonable to require Verizon to continue to report the FCC's MCOT results until further notice of the Commission.

9. It is reasonable to use GO 133-B measures to assess Pacific's and Verizon's service quality.

10. It is reasonable to use the FCC's ARMIS measures and a reference group to assess Pacific's and Verizon's service quality.

11. It is reasonable to use statistical methods to assess Pacific's and Verizon's service quality.

12. It is not reasonable to draw conclusions based on single deficiencies in performance since service quality depends on a company's overall performance.

13. It is appropriate to consider the results of formal complaints and other formal Commission proceedings initiated during the NRF period in assessing Pacific's and Verizon's service quality.

14. The Commission intends to consider clarifying the meaning of the term "primary (main) telephone service" in GO 133-B in its Service Quality OIR, R.02-12-004. GO 133-B's reference to "primary (main) telephone service" is unclear and requires clarification. It is unclear whether the quoted phrase refers to a class of service that includes basic exchange service and that the sequence of lines to an address is not a factor in the definition of primary service; or whether "primary (main) telephone service" refers only to the first line into a home. However, this is not the appropriate proceeding to revise this term.

15. GO 133-B specifically excludes billing inquiries from its measure of BOAT.

16. Pacific did not violate Pub. Util. Code § 451 in connection with its answer times for billing calls.

17. The Commission intends to consider whether to include billing calls within the GO 133-B standards in its Service Quality Order Instituting Rulemaking.

18. It is appropriate pursuant to Commission Rule 73 we take official notice of the Commission's actions in the complaints or other formal proceedings as cited herein.

19. It is reasonable to use survey data in assessing customer perceptions concerning service quality.

20. It is reasonable to use statistically valid methods to determine the evidentiary weight to assign to a specific survey instrument.

21. It is reasonable to conclude that meeting GO 133-B standards adopted by the Commission is a sign that a carrier is providing good service quality.

22. It is reasonable to conclude that a utility that earns better scores on ARMIS service quality measures than the scores of a reference group that includes the major large utilities is providing good service quality.

23. It is reasonable that any assessment of the quality of service offered by a telecommunications utility focus on direct measures of service quality.

ORDER

IT IS ORDERED that:

1. Pacific Bell (Pacific) shall conform its method of counting orders held over 30 days to the requirements of General Order (GO) 133-B as stated in this decision. Within 30 days of the effective date of this decision, Pacific shall file a compliance document in this docket demonstrating its compliance with the requirements of this decision with regard to the calculation of such held orders.

2. Pacific shall continue to report data to this Commission for measures required under the Federal Communications Commission's (FCC's) Merger Compliance Oversight Team (MCOT) requirements that expired in November 2002 until further notice of the Commission.

3. Verizon California, Inc. (Verizon) shall continue to report data to this Commission for measures required under the FCC's MCOT requirements contained in its order FCC 00-221 until further notice of the Commission.

4. We deny the Office of Ratepayer Advocates' (ORA's) recommendation that we conduct an audit of Pacific's or Verizon's historic installation data to determine the extent of data error and its subsequent impact on reported service quality results during the New Regulatory Framework (NRF) period

5. Pacific shall file and serve data in the form of a compliance filing in this docket that answers the questions concerning closed installation orders containing multiple lines as enumerated herein within 30 days of the effective date of this decision.

6. We deny The Utility Reform Network's (TURN's) request for a finding that Pacific has violated Pub. Util. Code § 451 with regard to its billing calls.

7. The Commission will consider in Phase 3B of this proceeding what regulatory actions it should take to ensure the continuation of high quality service by Pacific and Verizon and the improvement of service, where necessary or possible. The parties shall address such issues in their Phase 3B testimony.

8. Verizon shall notify us in advance if it seeks to discontinue reporting billing inquiries in its Business Office Answer Time (BOAT) results to make any other change in the types of calls it includes in its BOAT reporting.

9. Neither Pacific nor Verizon shall change the way they count their GO 133-B results (except as ordered herein) without advance permission of this Commission.

10. The Commission will consider in Phase 3B of this proceeding how to resolve the issues concerning the reporting of survey data under the P.A. 02-03 and P.A. 02-04 filing categories as described herein. The focus of the Commission's consideration is to determine whether additional unreported data exists from the period under review and how survey data should be filed by Pacific and Verizon on a going forward basis.

11. The parties shall address any needed regulatory changes related to the findings this decision makes in Phase 3B of this proceeding.

This order is effective today.

Dated_____, at San Francisco, California.

APPENDIX A

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